

Dams and CDM in India

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Dams and CDM in India

- Hydropower projects in India are increasingly projected by public and private corporate bodies as generating clean energy to seek carbon credits from Clean Development Mechanism (CDM) of the United Nations Framework Convention on Climate Change (UNFCCC)
- Some of the corporate bodies National Hydroelectric Power Corporation (NHPC), Satluj Jal Vidyut Nigam Limited, Athena Power Private Limited, Lanco Energy Private Limited, Teesta Urja Limited Delhi etc.

Dams and CDM India

- 188 dam projects in various parts of India have applied for CDM status as on June 29, 2011.
- More than half of these are in the Himalayas
- The tiny state of Himachal Pradesh to the North of India alone hosts 57 projects.
- Dams in India's North East are also aggressively projected as clean source of energy

Dams in India's North East seeking carbon credits

- **TEESTA III HEP, SIKKIM**
- **TEESTA VI HEP, SIKKIM**
- **RANGIT IV HEP, SIKKIM**
- **JORETHANG LOOP HEP, SIKKIM**
- **KHUITAM HEP, ARUNACHAL PRADESH**
- **LOKTAK HEP, MANIPUR**
- **CHUZACHEN HEP, SIKKIM**
- **LOWER DEMWE HEP, ARUNACHAL PRADESH**
- **MYNTDU LESHKA HEP, MEGHALAYA**
- **TING TING HEP, SIKKIM**
- **TASHIDING HEP, SIKKIM**
- **RONGNINGCHU HEP, SIKKIM**
- **DIKCHU HEP, SIKKIM**
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Some controversial proposed CDM dam in Himachal Pradesh and Uttarakhand

- 412 MW Rampur HEP, Himachal Pradesh
- Allan Duhanan HEP, Himachal Pradesh
- 600 MW Loharinag Pala HEP, Uttarakhand
- 22 MW Bhilangana Dam, Uttarakhand

Selected CDM Dam projects in India's North East: The 1200 MW Teesta III

- The Teesta III Run of the River Hydroelectric Project in North Sikkim district, Sikkim, India implemented by M/s Teesta Urja Limited (TUL), has been submitted for CDM clearance on 20 May 2008.
- The Teesta III HEP project will be 60 m height across Teesta River near Chungtang village.
- The PDD also outlined that the project will reduce total 4,333, 658 tonnes of CO₂ per year over the crediting period of 10 years from 2011 till 2021.

Teesta III Dam Site



Impacts of Teesta III HEP

- **Violation of Free Prior and Informed Consent:** The project proponents and the government aggressively pursued the dam construction despite strong resistance and without the consent of all affected communities.
- **Violation of MoEF's own norms:** The environmental clearance granted to the project in August 2006 for Teesta III is in violation of the MoEF's own stipulation while clearing the Teesta Stage V HEP in May 1999, which stated that: "No other project in Sikkim will be considered for environmental clearance till the carrying capacity (CC) study is completed."

Impacts of Teesta III Continued

- **Impact of Blasting and tunnelling:** The massive blasting of hills for tunnelling work involved in the construction of project at Chungtang village has already led to drying up of water sources and subsequent impacts on Theng and other Villages.
- **Seismic Impacts undermined:** As per the Seismic Zonation map of India, Sikkim, alongside with other states of India's North East is located in Seismic Zone IV, one of the most seismically vulnerable regions BIS, 2002.

Teesta VI HEP, Sikkim

- The Teesta VI HEP intends to generate 500 MW electric powers in Teesta River near Subin Khor village, Sikkim
- The Lanco Energy Private Limited is the project authority.
- The PDD of the project estimated that the project would generate 202, 60,270 Certified Emission Reductions during the crediting period of 10 years.

Teesta VI Dam Site



False Claims of Teesta VI HEP for Carbon Credits

- The TEESTA VI is a HEP project with clear evidence of not being 'additional'.
- The Detailed Project Report submitted by the Project Proponent to the Central Electricity Authority in March 2006 has no mention of CDM credits while establishing economic viability of the project.
- Similarly the Clearance accorded by the Central Electricity Authority of Govt of India has no mention of CDM credits

Teesta VI HEP and false claims for Carbon Credits

- The Power Purchase Agreement (PPA) signed by the Project Proponent with the Maharashtra State Electricity Distribution Company in August 2006 has no mention of CDM credits etc
- The PPA was approved by the Maharashtra Electricity Regulatory Commission on June 26, 2007. The Project Implementation Agreement was signed on Dec 7, 2005.
- All the claims for CDM forwarded by the project proponent are thus prepared at a much later stage to claim profits.
- Questions also arose to the veracity and accountability of the DNA at national level and the role of DOEs

The Affected Citizens of Teesta (ACT) protest against the Dams projects in Teesta River



Rangit IV HEP Sikkim

- The 120 MW Rangit I Hydro Power Project is being developed under joint venture scheme between Jal Power Corporation Limited and Sikkim Power Development Corporation in Rangit River at Reshi in West Sikkim
- An agreement for setting up of Rangit IV HEP was signed with the Sikkim Government on 9th December, 2005 on Build, Own, Operate and Transfer basis with SPDC.
- Project proponent projects the project will reduce the Green House Gas emissions in the Northern Eastern Western and North Eastern grid mix.

120 MW Rangit IV HEP, Sikkim



Rangit IV HEP: Clear cut case of Environmental Impacts

- The Rangit Stage IV HEP wrought environmental havoc and contributes with other mega dams in Sikkim to kill the life of Rangit River
- In violation of sustainable development criteria of CDM, on 25 February 2011, the Coastal Project Private Limited, contracted by Jal Power Development Corporation and engaged in boring tunnels has been show-caused by the Department of Forests and the West District Administration of Sikkim for “illegally dumping untreated waste” from the tunnels into the Rangit river.
- The West District Collector ordering that the work be shut down for three days after the visit on 25 February 2011.
- Villagers complained that the marine life at Rothak has seen a drastic decline over recent years

105 MW Loktak HEP in Manipur

- The National Hydroelectric Power Corporation (NHPC) had called a Global Invitation for Identification of Prospective Consultant / Firms for Securing and Sale of VER for Renovation and Modernization (R&M) of Loktak Power Station on 3 September 2010.
- The Loktak HEP was commissioned in 1984 and the project affected communities are still not rehabilitated or resettled till date.

105 MW Loktak HEP Project: Ithai Barrage



Impacts of Loktak Project

- The construction of the Ithai Dam has brought a reverse picture in economic status of Manipur from a self sufficient to borrowers position with a large number of agricultural land submerged under water.
- It is estimated that about 83,450 hectares of agricultural lands of both sides of Ithai Dam have been affected. Out of this total area, about 20,000 hectares were used for double cropping purposes.

Loktak HEP impacts

- **Loss of indigenous Flora and Fauna:** Several indigenous fishes have disappeared from Loktak Lake such as the Ngaton, Khabak, Pengba, Tharaak, Ngaaraa, Ngaatin, etc due to Ithai Dam. It has been observed that these fishes migrated from the Chindwin-Irrawady river system of Burma to the course of Imphal/Manipur River for breeding in the adjoining lakes and streams of Manipur valley.
- **Increasing Floods:** The Ithai Barrage has been responsible for series of floods in Manipur as the NHPC in several occasions; refuse to open the sluice gates of Ithai Barrage, leading to widespread submergence of agricultural areas.

Loktak HEP Impacts

- The Government of Manipur, passed the Manipur Loktak Lake Protection Act, 2006 and burnt down floating huts of fishermen displaced by Loktak HEP based on the eviction notification of Loktak Development Authority on 11 November 2011
- The arsoning process carried out by personnel of the Loktak Development Authority (LDA) and the Manipur Police forces based on the LDA eviction notification issued on 11 November 2011
- Nearly one thousand floating huts have already been burnt displacing nearly 2000 family members living in these floating huts.
- The Manipur Loktak Lake (Protection) Act, 2006, in particular Article 19 and 20 of the Act, which divides the 236.21 sq km Loktak Lake into two zones - a core zone comprising 70.30 sq km, which is a 'no development zone', or 'totally protected zone', and a buffer zone of other areas of the lake excluding the core zone

Protest Rally Against Loktak HEP Project



99 MW Chuzachen HEP, Sikkim

- Chuzachen Hydroelectric Project (99 MW) is a Run-of-river type project with a reservoirs formed on the Rangpo and Rongli streams, tributaries of Teesta river. The Gati Infrastructure Limited is the project proponent for the Chuzachen HEP project.
- At least 12 labourers lost their lives after a coffer dam of Chuzachen HEP project collapsed in Rongli subdivision of East Sikkim on April 16, 2009.

Chuzachen HEP Dam site



1750 MW Lower Demwe HEP

- The 1750 MW Lower Demwe HEP is planned in Lohit district of Arunachal Pradesh and envisaged to utilize the waters of Lohit River, a major tributary of Brahmaputra River.
- The Government of Arunachal Pradesh awarded the Demwe Hydro Electric Project under Public Private Partnership model on Built Operate Own and Transfer basis for a period of 40 years to M/s Athena Energy Ventures Pvt Ltd.
- The State Government signed a Memorandum of Agreement (MoA) with AEVPL on 9th July, 2007.
- In February 2010, the MoEF granted environmental clearance to the project

1750 MW Lower Demwe HEP dam



Lower Demwe HEP Impacts

- **Loss of Land and Forest:** More than 43,000 trees will be felled for the Lower Demwe project; the submergence area would be no less than 1,131.09 hectares, including 969.44 hectares of forestland. The project proposed diversion of 1,415.92 hectares of forestland for the construction of the project and planned to fell over 1.24 Lakh trees.
- **Blasting impacts:** The dam building process would involve heavy excavation, tunnelling and blasting over 100 Lakh cubic meters of rock and debris very close to Parasuram Kund.
- **Displacement:** The project will also involve eviction of people from the Riverine islands of Lohit River and also from the settlements along the Dibru Saikhowa National Park.
- **Impact on Wildlife Sanctuaries:** Three National Parks, Dibru-Saikhowa national park, Kamlang National Park and Kaziranga National Park in Assam will be affected directly

Myntdu Leshka HEP, Meghalaya

- The Myntdu Leshka HEP is a 84 MW HEP in Jaintia Hills district in Meghalaya and will be located at 100 m. downstream of Leshka, the tri-junction of Umshaking, Myntdu and Lamu rivers and close to Pdengshakap village.
- The Jaintia people are indigenous in project area.

Myntdu Leshka Dam Site



Myntdu Leshka HEP False Claim for Carbon Credits

- The construction of the project was started during May 2004 and granted environmental clearance by the MoEF on September 26, 2001 after a public hearing held by the Meghalaya Pollution Control Board in March 1999.
- Necessary site clearance from MoEF to take up the pre construction works of the Project granted in August 1999.
- It is clear that all these processes were finalized much before February 2005 when the UNFCCC got legal status and CDM came into existence, indicating the project violated the additional criteria to become a CDM project.

Myntdu Leshka HEP: Issues and Concerns

- The Myntdu Leshka HEP lacks adequate appraisal as its dam, power house and tunnel continues to be flooded repeatedly in 2009 and 2010, leading to loss of lives of ten (10) labourers.
- Meghalaya government is now banking on the CDM credits to recuperate some lost cost. Till November 2011, the Myntdu Leshka project has consumed more than Rs. 900 Crores, an almost three fold increase from its original estimate of Rs 363.08 Crores.

97 MW Tashiding HEP, Sikkim

- The 92 MW Tashiding HEP Project will be implemented by Shiga Energy Pvt. Ltd. on Rathang Chu River, a tributary of Rangit River.
- The residents of Tashiding, Yangthang and the adjoining areas under the banner of “Save Sikkim Organization” (SSO) have been opposing the Shiga Tashiding Hydel project after a wide crack has appeared on the land surface above the under-construction tunnel of Tashiding project in Amblok village after the strong Earthquake that hit Sikkim on September 18, 2011.
- The SSO maintained there is illegal land acquisition as Government had acquired their land claiming the acquisition to be for the construction of road which actually is for tunnel.
- The Sikkim government has kept the Tashiding HEP under further investigation in a Cabinet Meeting on 25 January 2012 while scrapping the Ting Ting HEP and Lethang HEP.

412 MW Rampur HEP Project

- The 412 MW Rampur Hydroelectric Project located near Rampur in Himachal Pradesh has been approved for CDM EB to claim Carbon Credits and to trade for profits.
- The project is estimated to receive 15 million carbon credits from 2012 to 2022.

Proposed Rampur Dam site



Rampur HEP Impacts

- Local communities have expressed environmental and social concerns about the project for years and have reported increased dust problems, higher prevalence of asthma, lower harvests and weakened farm animals.
- The tunnel which SJVN is building diverts underground water away from village sources and there is no Catchment Area Treatment Plan

192 MW Allan Duhangan HEP Himachal Pradesh



Allan Duhangan Dam

- The 192 megawatt Allain Duhangan hydropower project is being built across two tributaries of the Beas River in the mountain state of Himachal Pradesh.
- On October 12, 2004 , the World Bank's executive board approved a \$45 million loan from their private sector arm, the International Finance Corporation (IFC) to finance Allan Duhangan HEP despite the launching of an investigation into the project by the IFC's ombudsman.
- The affected villagers complaint to IFC's Compliance Advisory Ombudsman (CAO) charged that the project's environmental assessment was flawed and people consent has not been taken.
- Affected peoples has long called for scrapping of the project as the project will affect their livelihood and serious shortage of water.

22 MW Bhilangana Dam, Uttarakhand

- The SPEL (Swasti Power Engineering Ltd) got the the CDM approval in early 2007 to develop a 22.5-MW Bhilangana HEP on the Bhilangana River in Uttarakhand, which is also a major tributary of the sacred River Bhagirathi.
- The company stands to make enormous profits as the project is registered to generate a large sum of carbon credits—624 000 CERs within 2012 and 1 093 000 CERs within 2020, meaning, in monetary terms, anything between 8 to 15 million euros!
- ACRES International, a US company, is part-owner of the SPEL and was convicted for corruption charges in 2002 and black-listed by the World Bank.
- In March 2005, 120 villagers of Sarona Village were arrested and put in jail for four days; 79 more, including women, were arrested in July 2005. In November 2006, at least 29 people were arrested and forced to sign a document that they would stop their resistance

The 600 MW Loharinag Pala HEP, Uttarakhand

- **The 600 MW Loharinag Pala HEP Project** is undertaken by the National Thermal Power Corporation (NTPC) Ltd over Bhagirathi River, about 100 Km upstream of Tehri Dam.
- The main project construction contracts were awarded and construction started in 2006
- However, work was stopped in 2009 after Professor GD Aggrawal, came close to dying on 38th day of his fast in protest of the blocking of the headwaters of the Bhagirathi River, considered as sacred to Hindus.
- The project was officially scrapped in 2010

Bhagirathi River near Loharinag Pala Dam Site



Issues and Challenges of Mega dams projected as solutions to climate change

- All the hydroelectric power projects proposed for carbon credits from CDM are mega projects already with significant socio, economic and environmental impacts
- Underestimated the impact of reservoirs despite several studies confirming substantial emissions from hydropower projects with storage in tropical regions
- Dam affected people not aware of the dam developer making claims that the project is climate friendly and subsequent efforts to claim carbon credits from CDM.
- No public hearing ever has conducted with affected communities for seeking carbon credits from CDM

CDM as means for subsidies

- Carbon credits are increasingly turning CDM into a subsidy mechanism for hydro developers instead of becoming tools for climate protection.
- Hydro developers are repeatedly justifying their applications to the CDM with tacit arguments, such as that projects will only be completed if they receive CDM revenue.
- Companies supposed to monitor and audit the developers' claims (DOE) and the CDM's Executive Board readily endorses fraudulent plans of project developers.

Additionality issues: Misleading Information

- Often, the dam developers claimed that there are a limited number of feasible opportunities to develop hydroelectric power in India.
- For example, the project proponent for Jorethang HEP maintained that the high installed cost of the Jorethang HEP clearly indicates its non-viability without the additional revenue from the sale of CERs and also that the project is not financially attractive.

Misleading Baseline Projections

- Project developers claimed that the baseline scenario in the absence of project activity continues to be highly carbon intensive and that emission reductions generated by the project is additional.
- In India, Dam developers stated that in the absence of the project activity, new capacity additions to power grids will be met through the development of large thermal power stations.
- In India's NE, the power generation is mostly from hydropower and the dam developers continue to use this dubious arguments still

Misrepresentation of Alternative Scenario:

- The project developers continues to present misleading information that generation from wind power and biomass is not viable
- Around 35-40% of the electricity generated in India is and in the NEWNE grid in question is lost in transmission and distribution.
- And to take appropriate measure to minimize this loss will substantial improve the power availability
- There is also a big scope to improve the generating capacity of dam projects as many of these existing projects are not generating electricity at optimum level.

No policy governing CDM approval process and accountability

- There has been no policy that governs the approval process of proposed CDM projects with respect to peoples' participation and impact assessment. There is no independent verification of the approval criteria, the sustainability clause, fulfilment of the additionality and baseline clause etc.
- Even when the project proponents submit false and manipulated information, the DNA headed by MoEF continues to approve projects for CDM carbon credit benefits.
- The public hearing process under EIA notifications of EPA Act, 1980 does not specify any rules for dam projects seeking carbon credits under carbon trading mechanisms of the UNFCCC.
- The dam developers and also the financial institutes lending money to them have limited and unreliable social, environmental and accountability norms towards protection of community rights or to share CDM benefits with the communities.

Accountability of DOE (verifying agencies of CDM projects):

- The DOE, responsible for verifying CDM projects for both validation and registration has been functioning with serious lack of accountability and even violations of the procedural rules of CDM board on issues of sustainable development and verifying the additionality of the project.
- These DOE has failed to make independent assessment of the information submitted by the project developers and failed to consider the need for peoples' participation in its verification processes.
- Indeed, the procedural violations of CDM guidelines by some of the DOEs for verification of CDM projects have already been acknowledged, however to a certain extent.

Grievance Mechanism and Accountability

- The CDM does not have recourse mechanisms for project affected communities to air their grievances when procedures have not been followed.

Application of WCD recommendations and UN Declaration on the Rights of indigenous peoples

- In India's North East, where more than 168 dams has been planned all over the eight States, mostly in Arunachal Pradesh, there is very little reference to development best standards that respect indigenous peoples rights.
- The recommendations of the World Commission of Dams (WCD) both for dam construction and for seeking carbon credits from hydro projects not adhered to
- The WCD has recommendations that set guidelines to determine whether a dam qualifies to sell carbon credits through the UN's Clean Development Mechanism.

Recommendations

- Stop targeting mega dams in India for seeking Carbon Credits under CDM of the UNFCCC. Large hydropower projects should not be eligible for CDM funds.
- All validation and registration of dam projects from India with CDM should be revoked because of the outstanding sustainable development and additionality issues.
- Projects with reservoirs in India should include estimates for GHG emissions based on the [UNESCO/IHA Greenhouse Gas Measurement Guidelines for Freshwater Reservoirs](#), and these estimates should be included in calculating their Certified Emissions Reductions.

Recommendations

- Any development intervention on indigenous peoples land and territories should respect their right to free, prior and informed consent as outlined in the UN Declaration on the Rights of Indigenous Peoples, 2007
- The Ministry of Environment and Forest, due to its faulty environmental clearances and lack of accountability in approving mega dams for CDM project should not be the DNA.
- There should be an independent verification process for all proposed CDM projects coming to DNA for approval.



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Thanks