International Day of Action for Rivers: Shalmala River Protection Rally

"We need Kranti Mantra now to protect our Rivers"

On March 13, 2014, on the eve of International Day of Action for Rivers, more than 1500 people gathered on the Ganeshpal Island in the Shalmala River. The mood was upbeat and there was spring in each step, young and old. Remarkably, women were in majority in the gathering. There were barefooted farmers, planters with gardens along the river, dhoti-clad priests, clutching files with stories on river protection, school children who thoroughly enjoyed splashing about in the river, tribal groups who venerated the Shalmala, researchers working on rivers, and even swamis who had come here with a tough message! The densely forested river banks were decorated with garlands of flowers and mango leaves and there was a local band drumming rhythmic beats.

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The gathering was here in Uttar Kannada District in Karnataka to celebrate the lovely Shalmala River, a life giving resource to these villages. On one of the boulders inside the river was a painted notice:

"If anyone tries to destroy our environment and rivers, we will NOT allow it."
Shalmala River, as the name suggests, evokes lyrical beauty and magic. This small river is a tributary of the West Flowing River Bedthi (also called Gangavalli, total catchment area of 3574 sq km) in the Western Ghats, in Uttar Kannada District of Karnataka.

Bedthi herself is a special river. In the 1980’s when the Karnataka Power Corporation Limited announced its proposal for damming this river for a hydroelectric project, the resultant protest movement brought together myriad groups from Uttar Kannada district, Karnataka state and researchers and scholars from across India. Like the Narmada and Silent Valley struggles, Bedthi struggle helped in laying the foundation stones of an informed discourse surrounding dams and rivers. While it talked the language of a local peasant who did not want his land to be submerged and his river to go dry, it also talked the language of the scholar working on cost benefit analysis and ecological goods and services. The movement is an inspiration to many because the Bedthi still flows freely and the dam is all but scrapped, bowing to the opposition.

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Shalmala River Riparian Conservation Reserve

Shalmala, a smaller tributary of Bedthi is no less special. For one, it is one of the very few protected rivers in India. Following unting research and advocacy by Bhalchandra Hegde and local communities and with support of Forest Department Officials and erstwhile Chairperson of Western Ghats Task Force Ananth Hegde Ashisara, Shalmala the river has been protected through constitution of Shalmala River Riparian Conservation Reserve. With Shalmala River Riparian Ecosystem Conservation Reserve (CR), Uttar Kannada now has 4 CRs under its belt: all of them protecting important rivers in the region, without affecting local traditional use. These include Aghanashini-Lion Tailed Macaque Conservation Reserve, Bedthi Conservation Reserve and Hornbill Conservation Reserve along the Kali River. The local population, several researchers like Dr. TV Ramchandra from IISC, Dr. Praveen Bhargava, Politicians and Swami of local Math have supported this cause.

Conservation Reserve is a new concept in the rigid framework of Protected Areas under the Wildlife (Protection) Amendment Act of 2002. The novel part of these reserves is that they seek to protect habitats that are under private ownership also, through active stakeholder participation. They are typically buffer zones or connectors and migration corridors between established national parks, wildlife sanctuaries and reserved protected forests in India. They are designated as conservation reserves if they are uninhabited and completely owned by the government but used for subsistence by communities, and community reserves if part of the lands are privately owned. Administration of such reserves would be through joint participation of forest officials and local bodies like gram sabhas and gram panchayats.

One of the important arguments in the proposal for conservation reserve is the unique cultural value of Shalmala River. At Sahasralinga, one is awestruck to see hundreds of Shivlingas carved on the bedrock of the river. The river itself is a temple, with carvings of Shivalingas, Nandi (Basaveshwara), Garuda, deeps and inscriptions. There is huge pilgrimage here on the occasion of Shivratri.
Hydel project inside a Conservation Reserve? Even as the conservation reserve was declared in June 2012, Karnataka Renewable Energy Development Limited (KREDL) allotted a 24 MW Hydel project right inside the conservation Reserve across the Shalmala! This Ganeshpal hydel project envisages a trench weir as a dam to store and divert water away from the river. The proposed location of the weir is just upstream of Ganeshpal island. The project envisages a 4.4 kms long Head race tunnel to divert water from river to the powerhouse. The powerhouse is planned to be at the foot of the waterfall. **Through this tunnel diversion which will need blasting in the river bed and riparian zone, nearly 5 kms of the rivers well as the Ganesh Falls will be rendered dry.**

The Ganeshpal Island, where the rally took place will be exposed, without a river caressing it and Ganesh Falls will dry up at least during non monsoon months. The project also envisages a 15 kms long transmission line to the power station at Unchangi and most of this area is under forest. In addition, the DPR of the project plans for construction of roads to the weir, powerhouse and tunnels as well as workers colonies and rest house with recreational facilities. If materialised, this small hydel project which does not legally require an Environment Impact Assessment or Public Hearing, will destroy the Shalmala Conservation Reserve.

The local people are opposing this project with all their might. One of the resolutions of the rally was an appeal to the government to install solar power projects in Uttar Kannada in non-forest regions, which will be heartily supported by locals, but to leave their river alone. It is understandable. The economic, social and cultural ethos of the region is very strongly linked to flowing rivers. People worship rivers, they fish from them, use water for drinking water needs, divert streams for irrigating their lands and look upon the rivers in awe in the monsoons.

The meeting was presided over of Swamiji of a Svarnavalli Matth. He is locally known as the Green Swamy. Rather than going into religious sermons, Swamiji told the people: “Along with Shanti Mantra, now is the time for Kranti mantra. Do not let project developers who have no link with your river, come here and destroy it. We have a duty towards our river and we will fulfil it.”

The protest rally was addressed by Ananth Hegde Ashisar, former Chair of the Karnataka state Western Ghats Task Force and a former member of the State Wildlife Board, noted economist B. Kumarswamy, Dr. Subhashchandra from IISC, Bangalore Adv. Shankar Bhat from Bangalore, Parineeta Dandekar from SANDRP, and Shri. Karunakar Gogate from Hosamat, Dakshin Kannada. Shri. Gogate shared how Kukke hydel project planned in his region has not disclosed even its submergence details after 3 years of being told to do so by the government.

More than 1500 people stood and vowed to protect Shalmala River and their entwined lives in days to come. According to Panduranga Hegde of Appiko Andolan, Sirsi, even without religious affiliations in the past, this struggle has been made strong by the local communities.

After the rally, school children splashed about in the river, researchers went for bird watching along the riparian stretch, farmers returned to their gardens to water their crops and the elderly sat down on the river sands for a gossip. Shalmala flowed by serenely. **May this flow continue.**

Parineeta Dandekar

Bhalchandra Hegde & Ananth Hegde Ashisara, both instrumental behind Shalmala River Conservation Reserve, at Sahasralinga, the beginning of the reserve
Exemplary Fraud in environmental governance!
Sonthi LIS in Karnataka

That small-time EIA agents and private project proponents put up sham EIAs and project justifications is not really news. People, from erstwhile Environment Minister Jairam Ramesh to Prof. Madhav Gadgil, have spoken famous lines about this issue.

But what if respected government agencies and departments too join this band wagon of fraud?

In the 69th meeting of the Expert Appraisal Committee of the MoEF on River Valley Projects, officials of Karnataka Bhagya Jal Nigam Limited and WAPCOS (Water and Power Consultancy, under the Ministry of Water Resources) earnestly discussed the ‘proposed’ Sonthi Lift Irrigation Scheme, which ‘envisages’ a non-submersible barrage (dam) across the Bhima River in Gulbarga, Karnataka. The barrage and project would submerge over 1400 hectares of land and affect nearly 3000 people.

As per EIA Notification 2006, the project had applied for first stage environmental clearance (Terms of reference clearance) in which the EAC is supposed to appraise the viability of the proposal holistically, assess the pre-feasibility report (PFR) and Form I submitted by the project proponent and, if all these are found satisfactory, recommend specific Terms of Reference for carrying out Environment Impact Assessment (EIA, which typically takes at least a year) and Public Hearing of the project. On completing these, the project comes back to the EAC for Environmental clearance. Based on the EIA and public hearing, EAC decides on Environmental clearance (EC) for the project. EC is issued by the MoEF and only after this can the actual project work start.

This forms the backbone of the Environmental clearance process of the country, upheld by the EIA Notification 2006 and Environment (Protection) Act 1986. Now comes the intriguing and sad part.

The Pre-feasibility report of the project, presumably done by WAPCOS, talked about Sonthi Lift Irrigation scheme, which ‘envisages construction of Sonthi barrage, its ‘proposed’ submergence and people who ‘may be affected’. Form I by the proponent talked about “967 structures which will have to be cleared in submergence village for the project”. Note here that WAPCOS is no small time EIA Agency, it is a part of the Ministry of Water Resources, Government of India.

The reality is that the Sonthi barrage with vertical gates, which the Executive Engineers and WAPCOS were ‘proposing’, already stands across the Bhima River near Sonthi village. While work on the barrage is complete, work on canals is also complete in some stretches and progressing in some. Contracts for this Lift Irrigation scheme, which was discussed for TORs in 2013, were issued by the Karnataka Government as early as 2005!

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In fact, the Karnataka Bhagya Jal Nigam Limited website itself sports a picture of this barrage and states that: “Sonthi Barrage, with a capacity of 4 TMC is completed”.

Sonnthi Barrage completed without EIA, Public Hearing and Environmental Clearance (KBjNL)

Senior Officials of the Karnataka Bhagya Jal Nigam Limited and WAPCOS mislead the MoEF about ‘proposed’ Sonthi barrage and Lift Irrigation Scheme. On the ground, the barrage is ready without an EIA, Public hearing or clearance. EIA Report states the project has TORs, when the TORs were rejected by the EAC. EIA Report is a copy paste sham report with sections pasted from Kundaliya Project, Madhya Pradesh. Karnataka State Pollution Control Board is now organising a Public Hearing, based on fraudulent and misleading reports! Sonthi LIS is a shocking case of fraud and deceit fromthe highest quarters.

CAG report proves that contracts for converting the submersible barrage into a non-submersible barrage and Lift Irrigation Scheme were given as early as 2003, nearly a decade before the project came for first stage environmental clearance!

1 http://environmentclearance.nic.in/writereaddata/Form-1A/Minutes/0_0_11112712561217169th_EAC_MINUTES.pdf
2 http://www.wapcos.gov.in/Home/
3 http://www.kbjnl.com/Ongo-CZ1-Sonthi-LIS
4 http://www.kbjnl.com/Progress-Report
including Aqueduct, Sonthi Branch canal Km 0.00 to 7.00, Distry. No.1 Km 0.00 to 15 & Yargol Minor Canal works are in progress.”

CAG report Ironically, not only is the scheme complete, but CAG had punched holes in the contracting of this LIS back in 2011. According to CAG Report, No. 4, Commercial of 2011, Karnataka, modifications of converting a submersible bridge into a lift irrigation scheme have happened on the barrage and Sonthi barrage has already been modified into a Lift Irrigation Scheme. CAG has recorded irregularities in awarding contracts for this extended work also to the same contractor, without proper tendering process. CAG report proves that contracts for converting the submersible barrage into a non-submersible barrage and Lift Irrigation Scheme were given as early as 2003, nearly a decade before the project came for first stage environmental clearance!

According to the CAG report: “After award of the work (June 2003) the Company (Karnataka Bhagya Jal Nigam Limited) decided (December 2003) to construct a non-submersible bridge on a request from the Minister for Minor Irrigation (October 2003). This resulted in an increase in quantity by more than 125% of tendered quantities. The same contractor was entrusted (Nov 2004) with the additional works necessitated due to change over to non-submersible bridge at the cost of Rs 7.85 crore.”

“The Government has increased the scope of the Sannati barrage and converted it into a lift irrigation scheme to utilise 4 tmcft of water to irrigate more than 17,000 hectares,” Mr. Singh laid the foundation stone for the redesigned Sannati lift irrigation project on June 16 2005”

Karnataka Bhagya Jal Nigam Limited or WAPCOS however, did not share this advanced status of the work with the MoEF and went on talking of the ‘proposed’ barrage in the EAC meeting.

69th EAC Meeting SANDRP sent a submission to the EAC ahead of the 69th meeting in which the project was considered, exposing this state of affairs. Following this, the minutes of the 69th meeting of the EAC note: “It was informed to the project proponent that a complaint/ representation against the project from SANDRP has been received. As per the complaint, construction work for the project has already been started. In that case, this is a violation of Environmental Protection Act, 1986. The project proponent was given a copy of the complaint and was asked to give a detailed response. The EAC also advised MoEF to write to State Government on the violation and take necessary action/settle in accordance with provisions of prevalent office memorandum on such violation. ‘The proposal may be placed before EAC only after this issue is resolved.’” (Emphasis added)

Public Hearing of an existing Project? Despite these clear instructions by the EAC we are shocked to see that Karnataka State Pollution Control Board has announced on its website that Environmental Public hearing of the Sonthi Lift Irrigation Scheme will be held in Sonthi village on the 23rd March 2014! The announcement is also accompanied by Executive Summary of EIA report and a complete EIA report. This EIA will not stand legal scrutiny as this is done without approved TORs from the MoEF. The Kannada version of the EIA report also bears the name of WAPCOS, but the English version does not mention this! Shockingly, both the Executive Summary and the EIA paint a fraudulent picture that the project has received TOR clearance in the 69th EAC meeting, when we saw above that this is categorically incorrect.

The EIA report states: “The Terms of Reference (TOR) for the EIA study were approved by MoEF. A copy of the approved Terms of Reference for the CEIA study is enclosed as Annexure-I.”

The EIA Executive Summary states: “Annexure III: TOR Clearance, 69th Meeting Minutes.” Annexure III consists of the extract of 69th EAC meeting Minutes and has shockingly removed the parts of the minutes which unequivocally state that TORs have been rejected. (It has removed: “The proposal may be placed before EAC only after this issue is resolved”). These consciously misleading statements are completely unexpected and unacceptable from the Karnataka Bhagya Jal Nigam Limited as well as WAPCOS.
Copy Paste EIA! The travesty does not end here. The EIA report by WAPCOS is a shoddy piece of work. Though it is meant for Sonthi LIS, Karnataka, large parts of the report mention Kundalia major multipurpose project from Madhya Pradesh!

For a lift Irrigation Scheme, without any drinking water supply component, the reader is told: “The proposed Kundalia Major Multipurpose project will provide 20 Mm3 of water every year to meet drinking water requirements. This will serve a population of 1.35 million, who will be served with low fluoride levels, Thus, Rajgarh district, which is categorized as fluoride affected, will be immensely benefitted due to the project.” (Page 10.6)

The case of Sonthi LIS is critical as it negates nearly all aspects of the environmental governance surrounding dams in this country. It has violated EIA Notification 2006, EPA 1986, it has conducted a sham EIA study without TORs, the EIA is a copy paste document and we do not even know the status of the displaced population.

This is repeated with unerring regularity at various places like 10-4, 10-6, 10-8, Table 2.2 (Cost required for Kundalia Project), 9.1 (Prediction of impacts!), many places at 9.7, etc. The EIA further extolls the benefits of Kundalia Multipurpose Project in an EIA document of Sonthi Lift Irrigation Scheme! In fact the EIA of Kundalia was also done by WAPCOS.

SANDRP and a number of organisations have pointed out the severe issues with WAPCOS’s EIAs, basin studies, cumulative impact assessments studies, etc. Even Forest Advisory Committee of the MoEF and EAC have passed strictures on WAPCOS work. But it seems that WAPCOS is least bothered about these serious inadequacies and fraudulent errors, which severely affect communities and ecosystems.

Wrong figures of affected population: EIA Report (10-2) states that 2861 people will lose their lands and 1760 people would lose homesteads. Same page states that 2004 people would lose lands. Topping this, section 13.3 states that in total only 942 people would be affected! (From 852 families, so this is assuming 1.1 persons per family!!). Its interesting to see that the agency could not get the numbers right even for a project which is already existing.

Wrong impoundment figures: Chapter 5 of Hydrology states: The Sonthi Lift Irrigation Scheme envisages construction of a barrage across Bhima River near Sonthi village in Chittapur taluka, Gulbarga district, in Karnataka to impound 4 TMC of water including a dead storage of 0.265 TMC. Chapter 2 on Project Description states: Sonthi Lift Irrigation Scheme envisages construction of a Barrage across Bhima River to impound 2.89 TMC of water including a dead storage of 0.265 TMC!

Wrong Cost figures: Page 2-13 gives cost at 502 crores. Page 2-14 gives it at 600 crores.

Gross irrigated area and Culturable command are the same at 16800 hectares. Irrigation intensity should thus be 100%, its shown as 105%!

Rehabilitation: Although the barrage is built and is storing water, rehabilitation of the affected population still not done. This is only indicative list of the cut and paste instances, inconsistencies and contradictions in the EIA.

All in all, it is clear that Public hearing for Sonthi Project should not be held on the grounds of:

1. Absence of TOR from MoEF due to violations
2. Violation of Laws
3. Cut Paste EIA Report
4. Serious issues with the quality of the EIA Report

In a letter we have urged KSPCB to cancel this public hearing immediately and take action against KBJNL and WAPCOS for making wrong statements of TOR clearance given by EAC when, EAC has not given any such clearance. Not doing so will implicate KSPCB in these illegal activities. The chairman of the KSPCB, Vaman Acharya told DNA correspondent9 that he was unaware whether the public hearing was indeed being held in Yadgir on March 23, when contacted for his reaction on the issue. He briefly remarked that officials on the ground level do their own work. This is clearly unacceptable response.

The case of Sonthi LIS is critical as it negates nearly all aspects of the environmental governance surrounding dams in this country. It has violated EIA Notification 2006, EPA 1986, it has conducted a sham EIA study without TORs, the EIA is a copy paste document and we do not even know the status of the displaced population. The question here is not about 16000 hectares of irrigation. If the project had undergone honest and transparent environmental appraisal, it would not have affected the irrigated area. The question is how serious are we in implementing, upholding and respecting laws protecting people and environmental and our entire environmental governance system. The project is back on EAC agenda for its 73rd meeting held in Mach 2014 and we have written to EAC and MoEF again raising these issues. We await the outcome of the meeting.

SANDRP has sent submissions to the EAC, MoEF as well as the KSPCB to cancel this sham of a public hearing for an existing project. Our eyes are now at the KSPCB and MoEF to see what action do they take against a project which undermines rules laid down by the MoEF and the laws of the land.

Parineeta Dandekar

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Union Minister of Environment Dr. Veerappa Moily has been in the news for all the wrong reasons. But one of his most disastrous and politically motivated decisions comes from his home state and his past constituency of Dakshin Kannada in Karnataka. Dr. Moily, now contesting Loksabha elections from Chikkaballapur constituency is, purely for his political gains, supporting and pushing the Yettinahole Diversion Project which aims to divert River Netravathi’s headwaters across the Western Ghats through an impractical and ecologically destructive scheme. The foundation stone laying ceremony was supposed to take place on the 31st Jan 2014, but was postponed, only for it to happen on the 3rd March 2014. SANDRP sent a letter to the Minister and MoEF questioning him on his stand and this was counted as one of the reasons for postponing the ceremony. The foundation stone laying ceremony was initially supposed to take place on the 31st January 2014 at Muddenahalli, Chikkaballapur and later too took place in Chikkalballpur.

The project has not conducted any impact assessment study and does not have any statutory clearance from the Ministry of Environment and Forests. This is in complete violation of several norms and laws and is shocking, to say the least.

Our detailed assessment based on local interactions, site visits, study of the Project report indicates that the project involves eight dams inside the Western Ghats, deforestation of more than 100 ha of forests inside the Western Ghats eco-sensitive region, water diversion without any ecological studies, need for 370 MW of power for pumping, 250 kms long canal, submergence of 1200 ha near Devaranyadurga including of 2 villages and 600 ha forest land.

Chikaballapur happens to be Dr. Moily’s current constituency and it is clear as to why Chikkaballapur was chosen to lay the foundation stone, and not Sakaleshpur, from where the water will be diverted, or Dakshin Kannada, which will face most of the impacts of the project. In Sakaleshpur and entire Dakshin Kannada, there is a huge and mounting opposition to Yettinahole Diversion and Dr. Moily.

On the day when foundation stone was laid, entire Dakshin Kannada was on a strike. University students joined in the protests, there were innovative campaigns like string smses and even a questionnaire circulated: “who betrayed you the most on Yettinahole”. First choice was Dr. Moily. There have been attempts to stop trains, numerous dharnas, hunger strikes, letters in opposition

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3 http://sandrp.wordpress.com/2013/09/18/yettinahole-diversion-an-imprudent-rs-100-billion-proposition/
4 http://timesofindia.indiatimes.com/city/mangalore/Rate-who-betrayed-you-most-on-Yettinahole/articleshow/31654545.cms
and a Satyagraha in Netravathi River to oppose this project.\(^5\)

Despite this growing discontent, Dr Moily, as an MP from Chikkaballapur, Karnataka Govt & the Union Environment Ministry did not feel the need to initiate a dialogue with the people of this region. Has the govt learnt no lessons from Delhi as to what happens when local voices are ignored?

Why has the Karnataka Govt or the Union Ministry of Environment and Forests, which Dr. Moily heads, not thought it necessary to assess and address the serious ecological impacts of this project? Why has Dr Moily supported the fraudulent tactics of project proponents to escape environmental clearance? Our letter to the Ministry in his regard dated 10 Sept 2013, which was endorsed by several experts remains unanswered till date.\(^6\)

Dr. Moily has been stating at several platforms that the project has been appraised several times. This is a blatant lie. We sent representations to the Ministry, with scanned pages from the Project Report which prove that there are irrigation and hydropower components to the project. The Ministry, rather than responding to us, sent the complaint directly to Karnataka Govt and accepted their false claim, without sharing it in open domain. All this indicates fraudulent intentions. As the Minister of Environment and Forests, it is Dr Moily’s duty to see that projects with significant impacts on ecology and dependent communities are assessed. Why is he escaping that duty?

Why is the Karnataka Govt and the MoEF, under his leadership, hiding behind unsupportable technical clauses of the EIA Notification 2006 to claim that the project does not qualify for Environment appraisal? How can Dr. Moily be part of the foundation stone laying ceremony when RTI reveals that Forest Department has not even assessed the forest area affected by this project? How can a Minister of Environment and Forests of India indulge in an illegal act of formal initiation of a project that does not have environmental or forest clearances?

The project will come to the Ministry of Environment and Forests, headed by Dr. Moily, for Forest Clearances. But he has supported the foundation stone for this project already, giving a signal that forest clearance is a foregone conclusion. This is clear issue of conflict of interest. And all this in the name of 2.8 TMC drinking water for Kolar and Chikkaballapur Districts. Has the government conducted any studies to prove that project with over Rs 100 Billion cost and severe environmental impacts is the least-cost option to get 2.8 TMC water for Kolar and Chikkaballapur? As the Union Environment Minister, it is Dr Moily’s duty to address these questions rather than supporting the foundation stone laying of Yettinahole Diversions Project. Not doing so is in violation of environmental norms and legal stipulations and will also reflect very poorly on you. Listed below are the signatories of letter to MoEF on this issue.

Dr. T. V. Ramchandra, Energy and Wetlands Group, Centre for Ecological Sciences, Indian Institute of Science, Bangalore, Karnataka; Panduranga Hegde, Parisara Samrakshana Samiti, Appiko Movement, Sirsi, Karnataka; Dr. Shrinivas Badigere, Water and Irrigation Expert, Bangalore, Karnataka; Dr. Latha Anantha, River Research Centre, Kerala; Dr. Rajeev Raghavan, South Asia Co-Chair, IUCN SSC/WI Freshwater Fish Specialist Group; Member, IUCN SSC Red List Committee; Debi Goenka on behalf of Conservation Action Trust, Mumbai; Shankar Sharma, Power Policy Analyst, Tirthahalli, Karnataka; R. Sreedhar, Managing Trustee, Environs Trust, Bangalore, Karnataka; Neethi Mahesh, Mahseer Conservancy, Karnataka; Dr. Ashok Kundapur, Udupi, Karnataka; Anand Krishnamrty, Parivartan, Bengaluru, Karnataka; Dr. Nitya Ghotge, Anthra, Pune; Ms. Nyla Coelho on behalf of Paryavarni, Belgaum, Karnataka; Pratim Roy on behalf of Keystone Foundation, Kotagiri, Tamilnadu; Dr. Archana Godbole, Jayant Sarnaik, AERF, Pune; Dr. K. Amitha Bachan, Western Ghats Hornbill Foundation; Vijay Sambare, Lok Panchayat, Sangamner, Maharashtra; Dr. Bhaskar Acharya, Independent Researcher, Bangalore; Ramesh Gauns, Environmental Activist, Goa; Ramaswamy Selvam for Tamil Nadu organic farmers federation, Arachalur, Erode; Parineeta Dandekar, Himanshu Thakkar, SANDRP, Pune and Delhi.


\(^6\) http://sandrp.wordpress.com/2013/09/10/complete-appraisal-needed-for-yettinahole-diversion-project-letter-to-moef/
Maharashtra farmers face impacts of hailstorms and State’s ‘Inaction’ Plan on Climate Change

Marathwada, Vidarbha, Northern Maharashtra and parts of Western Maharashtra reeled under unprecedented hailstorms and unseasonal rainfall in March 2014. Hailstorms in end of Feb 2014, initially thought of as a one-off phenomenon, continue to batter places like Solapur for nearly two weeks, absolutely destroying the farmer. Rabi crops like Wheat, Harbhara, Cotton, Dowar, summer onion are lost, horticultural crops like Papaya, sweet lime, grapes are battered and orchards which took years to grow are ridden to the ground. For many farmers the tragedy is unbearable as majority of crops were about to be harvested. Turmeric was drying in the sun, grapes were waiting to be graded, wheat was harvested and lying in the fields.

According to a preliminary estimate and news reports, crops over 17.5 lakh hectares have been severely affected, thousands of livestock, animals and birds have succumbed to injuries and diseases, which threaten to spread. At least 21 people have lost their lives to the disaster. A disturbing news is that at least 13 farmers in Vidarbha region have committed suicide in the face of extreme losses from this disaster.

The hailstorms developed as a response to hot, damp air from Bay of Bengal as well as Arabian Sea, rising and meeting the cold air coming south from the Himalayas, which led to formation of huge hail. This, though, is a very preliminary understanding of the phenomenon and hopefully, a clearer picture will arise in some time. According to news reports, Madha Taluka in Solapur alone received 208 mm rainfall, Kurduwadi received 154.1 mm & Pandharpur received 63.95 mm rainfall in a single day.

SANDRP compared this rainfall with the 1901-2002 district wise rainfall dataset of IMD available at India Water Portal. 208 mm rainfall in Madha in March 2014 is 771.79% higher than the highest recorded monthly district rainfall for Solapur District for the entire month of March in the 100 years between 1901-2002! The highest total recorded rainfall of March for the district was 26.95 mm in 1915. Similarly, 65 mm rainfall received by Ausa Taluka in Latur is 146 % higher than the highest 100 year recorded March rainfall of the district in 1944. Similar is the case with Parbhani, Akola, Wardha, etc.

But is it also truly unexpected? Is Climate Change an unknown phenomenon to us? IPCC has predicted that in peninsular India, rainfall patterns will become more and more erratic, with a possible decrease in over-

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1. [www.agrowon.com/Agrowon/20140316/4750999280374729172.htm](http://www.agrowon.com/Agrowon/20140316/4750999280374729172.htm)
all rainfall, but there will be an increase in extreme weather events. What we are witnessing is certainly an extreme weather event.

That climate change is happening and that the reasons are anthropological is beyond debate. Unfortunately, Climate change, its extent, its impacts, adaptation and mitigation strategies to cope with the changing climate do not enter discussions in functioning of Maharashtra govt with any seriousness. Being a global phenomenon, linking climate change to singular events is difficult, though climate scientists are unanimous that there is footprint of climate change in each such extreme weather event.

However, the complexity of this issue does not allow us to brush the issue under the carpet. In the recent floods of United Kingdom, the issue of climate change was debated and led to serious discussions between researchers, climate scientists, politicians and policymakers and it seems that it will lead to an action plan.

According to studies by ICRISAT, Vidarbha and Marathwada are specifically vulnerable to Climate change. Vulnerability index depends not only on the changing climate, but also on the vulnerability of the communities in the region: Despite hundreds of dams, agriculture in Marathwada region is mostly rain-fed, miniscule area which is irrigated appropriates all the water and grows sugarcane: a crop fundamentally unsuitable for a drought prone region, making the lesser endowed communities more and more vulnerable to challenges posed by climate changes or even small natural oscillations in the weather.

Significantly, there are studies that claim that Marathwada and Vidarbha regions of Maharashtra are specifically vulnerable to Climate Change. In a 2012 paper by ICRISAT, “Vulnerability to Climate Change: Adaptation Strategies and Layers of Resilience” (2009-2012) by Naveen Singh et al, which was highlighted in the latest edition of Adhunik Kisan, a Marathi magazine on agriculture, the authors have warned that Semi-Arid Tropics (SAT) in Maharashtra (as also the country) are specifically vulnerable to Climate Change. Their analysis of Maharashtra has shown that Marathwada and parts of Vidarbha are particularly vulnerable to climate change challenges, which include increase in the incidence of extreme weather events. Vulnerability index depends not only on the changing climate, but also on the vulnerability of the communities in the region: Despite hundreds of dams, agriculture in Marathwada region is mostly rain-fed, miniscule area which is irrigated appropriates all the water and grows sugarcane: a crop fundamentally unsuitable for a drought prone region, making the lesser endowed communities more and more vulnerable to challenges posed by climate changes or even small natural oscillations in the weather. This was seen very starkly in 2012-13 drought, when the region had highest area under sugarcane in Maharashtra, but several villages did not have water for drinking and dams became pawns at the hands of politicians-cum-sugar kings of the region.

The ICRISAT Paper says, “In the SAT region, Rainfall variability over the years is the major cause of yield uncertainty and makes rain-fed agriculture one of the risky enterprises in SAT India.”

In SAT region of Maharashtra, long-term climatic analysis undertaken by ICRISAT shows “an average rise of 0.02°C per year in annual temperature in the last 40 years. In addition, the mean surface air temperature is projected to rise by 1.7-2.0°C by 2030 and 3.4-4.5°C by 2080 from the 1960-1990 level. According to simulation studies, there can be productivity losses of 5-18% from 2030 to 2080 if no effective mitigation measures are undertaken. Differential degree of drought together with irrigation. In general, the historical average annual rainfall in the SAT is below 700 mm. In agricultural policy terms, this region is considered to be a less favored area (LFA) (ICRISAT)
unpredictable rainfall variability has become common. This situation makes it difficult for the farmer to take pre-emptive decisions, resulting in crop and economic loss. Everyone is affected by this sudden change in weather. However, the extent of damage caused will be dependent upon each one’s ability to cope with the deleterious effects.

The evidence, although incomplete, is indicative of major changes in the climatic conditions at macro levels. However, this masks the situation and variance at the local level. Greater vulnerability at the local levels implies greater pressure at the state and national level governance systems to respond to prevent the spillover effects such as urban migration, socio-political instability and conflicts, national poverty indicators, increased demands on disaster response systems, depletion of food and fodder production, etc.” However, there is no mention of coping capacity of the vulnerable and compensating those who lose and demanding that those who are responsible (High consumption sections of the world and India) pay for these impacts in this long list.

According to an undated report ‘Climate change in Maharashtra” brought out by Met Office (Hadley Centre, UK), TERI and Government of Maharashtra:

Maharashtra’s State Action Plan for Climate Change is not finalized till date. When enquired about the status of this plan, the Director of Environment Department, Government of Maharashtra told SANDRP that they had contracted the plan to TERI and TERI has not completed the task till date. The work on this plan is supposed to be overseen by a High Powered Committee, which is headed by the highest office in Maharashtra: The Chief Minister.

- **Increased temperatures and altered seasonal precipitation patterns (both amount & timing) could affect the hydrological systems & agricultural productivity.**
- **Increased risk of severe weather events may have a devastating impact on agriculture, water resources, forestry and the well-being of the population.**
- **TERI states that due to changing climate, Sugarcane yield in Maharashtra could go down by 30%.”**

When all this is known, what is Maharashtra’s response to these predictions and the looming challenge of Climate change?

The National Action Plan on Climate Change was made public in June 2008 amidst huge fan fare by the Prime Minister Manmohan Singh. It was formulated in most non transparent and non participatory way and presence of supposedly independent members on PM’s Council on Climate Change seems to have achieved little in this regard. It was mandated that states will come up with State Action Plans for Climate Change by 31st March 2011. These State Action Plans would outline the vulnerability of the state as whole as well as specific regions and specific communities in the state to Climate change and recommend a strong adaptation and mitigation plan for overcoming these challenges. Till date (31st March 2014), SAPCCs of 12 states have been submitted to the MoEF.

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14 http://books.google.co.in/books/about/India_s_national_action_plan_on_climate.html?id=2i0cAQAAMAAJ&redir_esc=y
15 http://envfor.nic.in/ccd-sapcc

11
Maharashtra Cabinet had reportedly approved a State Action Plan for Climate Change prepared by its environment department on Aug 20, 2009\textsuperscript{16}, however, the Maharashtra’s Action Plan is not finalized till date. When enquired about the status of this plan, the Director in Environment Department, Government of Maharashtra told SANDRP that they had contracted the plan to TERI and TERI has not completed the task till date.

Given the gravity of the issue, the State Action Plan for Climate Change is supposed to be overseen by a High Powered Committee, whose Chairperson is the Chief Minister, with participation from ministers of Urban Development, Public Works, Transport, Agriculture, Water resource, Revenue & Forest, Energy, industry, Food, Civil Supplies & Consumer Protection Department and Education Department.\textsuperscript{17} The agenda and minutes of meetings of this High Powered Group should have been in public domain, but none are.

A formal contract was signed between Government of Maharashtra and TERI in March 2010 and TERI was supposed to submit a complete report in two years, i.e., by March 2012. However, Maharashtra still does not have a state action plan, indicating its lack of seriousness about Climate Change and vulnerable communities.\textsuperscript{18}

As Maharashtra continues to be battered by hailstorms, rainfall and winds, it is not useful to get into discussions of whether this is due to climate change or not. The challenges right now is to devise strategy that will help the most vulnerable sections of Maharashtra: its farmers, more than 85% of whom practice rain fed agriculture. It is time not only to seriously revamp the nearly non-existent disaster management systems, but also the weather prediction and crop insurance systems. To build resilience of farming communities, reliance cannot be put on monoculture like sugarcane which does not allow even protective irrigation to a large proportion of farmers outside the sugarcane belt.

After closely spaced events like Mumbai floods in July 2005, Phyan cyclone in 2009, 2012-13 drought, erratic monsoon rainfall and current hailstorms, Maharashtra cannot afford to drag its feet on addressing climate change challenges. Some organizations like WOTR are specifically working on strengthening capacities of local communities to adapt to challenges thrown by Climate change\textsuperscript{19}. Let us hope that at least State Action Plan on Climate change is finalized, not only by the experts from far away, but with full participation of the people of Maharashtra. Similar rain induced damages are also being witnessed in the North India and scientists fear that the coming monsoon may suffer due to El Nino effect.\textsuperscript{20}

In the meantime, the least that the government of Maharashtra and also the Union Government can do is to compensate the affected farmers irrespective of red tapes and Codes of conduct. High-end consumers and polluters of India and abroad contribute to climate change, which ironically hits the poorest sections of the society the hardest. This gives an added urgency to address these linked issues.

*Parineeta Dandekar*

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\textsuperscript{17} http://envis.maharashtra.gov.in/envis_data/newsletter/climatechange/Links/cc_stat_resp_ntwrk.html  
\textsuperscript{18} http://envis.maharashtra.gov.in/envis_data/newsletter/climatechange/Links/cc_stat_resp_ntwrk.html  
\textsuperscript{20} http://timesofindia.indiatimes.com/business/india-business/Fears-of-El-Nino-on-rise-may-spell-woes-for-the-economy/articleshow/31824485.cms
Bahut kathin hai dagar panghat ki; ab kyo bhar lau pipe-link se ye mataki….

Hype vs reality of Kshipra Narmada drinking water project

The Narmada Kshipra Simhastha Project was dedicated to the people of Malwa by former deputy Prime Minister L K Advani on Feb 25, 2014, though, significantly, in absence of BJP’s Prime Ministerial candidate Narendra Modi.

The full page advertisement and the hype that was created by the Madhya Pradesh’s BJP government around pumping of around 5000 litres of Narmada water per second from a small Sisalia tank through 47 km long pipeline involving four stage pumping and releasing in the bed of dry Kshipra River needs to be put in correct perspective. Madhya Pradesh government calls it river linking that too “the first-ever river linking project of the country” (see Madhya Pradesh Govt press release dated: Jan 9, 2013¹). Such claims are not only a fraudulent presentation, possibly aimed to create hype in view of the upcoming elections, but is factually wrong in so many ways. In MP itself Indore and Bhopal [both outside Narmada basin] have been getting water from Narmada river through such pipeline schemes for many years, Indore is now getting through third phase of the scheme). More importantly, the project will not be able to deliver most of the benefits it claims.

¹ http://mpinfo.org/News/TodaysNews.aspx, various dates
The hydpe The Madhya Pradesh government claims this is “Making possible what seemed impossible”. It is not clear since when pumping 5 cumecs water through pipe-line have become impossible in India. It is claimed to be “Realizing the dream of former Prime Minister Shri Atal Bihari Bajpeyi” (wrong spellings in the official MP govt advertisements). It is not clear when did Mr Vajpayee said it was his dream to achieve pumping of some water through 47 km long pipeline. The project achievement, the advertisement claims will be: “First phase of restoring Malwa’s legendary prosperity successful”.

Dewas district collector Umakant Umarao explaining in Jal Khet film how RWH is the best option for the region and showed this on ground.

An engineer explains that ponds in Malwa would certainly fill up even at 400 mm rainfall, from film Jal Khet.
This claim actually takes the cake and much more! What happened to Malwa’s legendary prosperity? Did they need piped water from another basin for that? How can such a limited quantity of water from another basin at huge cost achieve that?

**The reality** But first let us understand what this project is about. The water that will be pumped from Sisalia tank will reach there from Narmada River: through one of the right bank canals of Omkareshwar dam. So the path of the water will be: Narmada river – Omkareshwar.

There are no assessment of this in public domain, but considering the long path of the water even after reaching the Kshipra riverbed, considering the huge evaporation losses and seepage into the dry riverbed and aquifers below, only a small fraction, less than a quarter of the water pumped would reach the consumers.

The project claims it will provide drinking water to over 250 villages along Kshipra river, Ujjain, Dewas and Pithampur and also recharge groundwater! How all this is going to be possible, who will get how much water is a matter of assessments that are not in public domain. It does not say it will provide water to Delhi Mumbai Industrial Corridor, and that is possibly because that is a hidden agenda.

Unaffordable cost of water Thirdly, this pipeline project involves pumping through 47 km long pipes that would raise the elevation of water by about 348 m from Sialiya (228 m) to Ujjaini (576 m) through pipelines of 1.8 m diameter. This involves use of at least 27.5 MW of power. The power bill of this project would be Rs 87.6 crores per year at conservative electricity cost of Rs 4 per unit. Even if 25% (very optimistic assessment) of the water were to reach the consumers, just the power cost of the raw water reaching the consumer would come to Rs 24 per KL (kiloliter). If we add the cost of maintenance, replacement cost, staff costs for the Narmada Kshipra Pipe Project (NKPP) and also the cost of treatment, distribution of the water to the consumers, the cost of the water that would reach consumer will multiply, would surely go much above Rs 50 per KL. Compare this to the water rate of Rs 5-10 per KL that average urban consumer in India is paying. Which of the rural or even urban consumer is going pay this kind of water bill? Here it may be added that the Rs 432 crores of the project cost is not even included in this water rate. More importantly, do we need this project for drinking water needs of Malwa? Such high head pumping schemes have proved unviable elsewhere too.

It maybe added here that Kshipra river is today in highly polluted state2. About 4 lakh liters of polluted water is entering the Kshipra river from Dewas city and industries, affecting villages of Ujjain, Dewas and Indore, and also Hirli dam and even groundwater. The Madhya Pradesh government has completely failed to ensure that such illegal dumping of polluted water is stopped. Now pouring this pipeline water to the polluted Kshipra water would only mean more quantity of polluted water.

The chief minister, through full page advts is now projecting himself as Bhagirath, but the Malwa communities already got it from UN in 2012, from film Jal Khet

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2 [http://freepressjournal.in/4-lakh-litre-chemical-water-being-released-to-kshipra-4-lakh-litre-chemical-water-being-released-to-kshipra/](http://freepressjournal.in/4-lakh-litre-chemical-water-being-released-to-kshipra-4-lakh-litre-chemical-water-being-released-to-kshipra/)
Inappropriate use of Omkareshwar Project funds
The administrative approval for the project dated Oct 19, 2012 says the cost of the project will be taken from Omkareshwar Project Unit II (Canals). Now this raises many questions. Firstly, it is clearly wrong to include the cost of the NKPP in the Omkareshwar canal cost. Secondly, this component was not included in the Omkareshwar project as approved by the Union Ministry of Environment and Forests, Central Water Commission or the Planning Commission. Adding this component to the Omkareshwar project would change the scope of the project and which should entail a fresh clearance from all these authorities. Thirdly, the Omkareshwar project canals get significant funding from Union of India under AIBP (Accelerated Irrigation Benefits Programme) and using that project money for such completely new component is clearly wrong, also from audit and accounts point of view. We are sure CAG will take due note of this and disallow such practices.

No Impact Assessments, no participatory process
There has been no social or environmental impact assessment for this project at any stage. The project also escaped need for environmental clearance using the loophole (which has been questioned for years now) that drinking water projects do not need environmental clearances and hence environmental or social impact assessment or management plans or monitoring or public consultations. In fact, since the project was funded from Omkareshwar project fund, use of that loophole itself is fraudulent. From the statements of the Madhya Pradesh Chief Minister Shri Shivraj Singh Chouhan, and former deputy Prime Minister L K Advani and others, they seemed quite sure about the project being beneficial. Why then they did not have any participatory processes and impact assessments? Incidentally, Mr Advani laid the foundation stone for the project on Nov 29, 2012, strangely at Ujjain, where no work of the project was to happen, leave aside starting of the work where normally, foundation is laid! Did the project have inappropriate foundation?

That the project had adverse impacts was apparent even from Govt of MP Press statement of March 21, 2013, which said: “Families who are growing water melons for generations at Kshipra river’s originating point3 Sisliya reservoir urged Shri Agrawal to give them assistance since they will no more be able to grow water melons due to all-weather filling of Sisliya reservoir due to the project and their livelihood will be affected. Shri Agrawal assured to consider these families’ demands sympathetically.” It is not clear, what decision, Mr K L Agrawal, then chairman of NVDA, took about these and other affected people, it has not been brought out in public domain. There was also forest land affected in construction of the pipeline. There will also be issue of huge energy footprint and hence carbon foot-print of this water. These are only a few of the environmental issues related to the project.

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3 Govt of MP press statement here was clearly wrong, Sisliya is not where Kshripa river originates.
The project was in fact approved through a hurried process without any involvement of either the people of the Narmada Valley or the people of the Malwa. The introductory note of Govt of Madhya Pradesh’s Narmada Valley Development Authority claims: “The Malwa region of M.P. had been reeling under acute water scarcity since about 3 decades. The ground water was plummeting at fast pace and experts had opined that if such conditions prevails, the whole Malwa region shall transform into a desert. The life line of M.P.-Narmada was the only option to feed the water to Malwa...” Similarly, MP Information Department Press Release says: “…the Chief Minister concluded that the crisis can be solved only through Narmada water.” Amazing claims, since there are areas within Malwa that are even today have no water shortage, as can be seen from the screenshots from the film on water harvesting work done in Malwa. However, more importantly, is there anything to substantiate this standard “only option” theory? Why did the government not have a participatory process for arriving at such a conclusion?

As Planning Commission member Dr Mihir Shah recently wrote, the 12th Five Year Plan proposes paradigm shift in Urban sector: “Each city must consider, as the first source of supply, its local waterbodies. Therefore, cities must only get funds for water projects, when they have accounted for the water supply from local waterbodies and have protected these waterbodies and their catchments. This precondition will force protection and build the infrastructure, which will supply locally and then take back sewage also locally.” The NKPP clearly violates this norm.

**Story of proven alternative: Jal Khet** This conclusion of There Is No Alternative (TINA for short) is typical phrase used by authorities to shut down any questions or debate. There are many Options for the Malwa region, but to see something that has been proven by the people of Malwa on ground, see a 25 minute film Jal Khet by Anjali Nyar, done for the International Water Management Institute, the film synopsis says: “In this awe-inspiring tale of innovation and courage, watch how the district administration joined forces with the villagers to bring water to this arid land. Soon the entire district would come under the throes of change in a massive effort to resolve its own problems, and many other fascinating and unforeseen changes would be discovered to have accrued. The perseverance of these people is a testimony to the enormous human capacity for resourcefulness and resilience.” Note that the district administration and the state were involved in this effort! Even the United Nations recognised this Bhagirath Krishak Abhiyan as best practice of water conservation for food security, as recently as in 2012. There should be no doubt that there are better alternatives than the Narmada Kshipra pipeline project.

The Bhagirath Krishak Abhiyan was simple: create farm ponds in Dewas district villages in Malwa that will harvest rainwater and provide source for groundwater recharge, irrigation and drinking water. The scheme started on a slow note, but has picked up over the years...
and has led to construction of over 4500 ponds, recharging groundwater, increasing water and food security and making the people so confident that they say they will never have water shortage. The biodiversity in the area has increased, with lots of birds and some wild animals too coming to the area.

**Is this Interlinking of Rivers or part of ILR?** The whole hype bringing in Vajpayee dreams etc seems designed to imply that the NKPP is part of the controversial and discredited interlinking of Rivers proposal. This is clearly far fetched and a major stretch on the credulity of all concerned, considering the scale, manner and cost of the ILR compared to a water pipeline project like NKPP. While it does involve transfer of some water from one basin to another for drinking water and the NKPP, like the ILR itself is of seriously doubtful justification, optimality, desirability and sustainability, there can be no comparison of NKPP with the ILR in terms of size, impacts, costs or viability. Moreover, in ILR scheme of things, Kshipra, being part of Ganga basin, is surplus basin, and Narmada, claimed to be a deficit basin, is supposed to get water from Par and Tapi rivers! It seems we are seeing a case of *Ulti Ganga* here too, compared to ILR!

But than MP is not new to working at cross purposes with the ILR project. It already did that in case of Mohanpura7 and Kundalia major irrigation projects in Chambal basin in recent months. Both projects are part of PKC (Parbati-Kalisindh-Chambal, one of the priority) link of the ILR project, but MP is going ahead with the projects independently, jeopardizing the ILR link. And the Central Water Commission is in fact supporting MP in these machinations.

**Next phase of Narmada Malwa link?** The Madhya Pradesh government is saying that the NKPP is only phase 1 of a larger programme. In next phases, they hope to transfer water from Narmada River to other tributaries of Chambal River like the Kali Sindh, Parbati and Gambhir. Those phases will involve much bigger transfer, much bigger impacts, costs and implications. However, the MP govt on Sept 27, 2013, gave in principle approval to full Narmada Malwa link at the cost of Rs 2375 crores and asked the NVDA to prepare Detailed Project Reports for these phases. The next phase is making impossible sounding claims of achieving irrigation to 17 lakh ha, drinking water to 3000 villages and 75 towns, in addition to water for industries!

No information is available as to how much water is to be transferred, in what manner and with what impacts. MP govt is clearly most undemocratic, non transparent and non participatory. There is an interesting clause in the administrative *in principle* approval, however. It says the project operation and maintenance expenses must be recovered from the farmers! Rehmat of Manthan Adhayan Kendra based in Badwani suspects this is because the project is part of the loan application to the World Bank. Going by the first phase costs, the O&M (Operation and Maintenance) costs of next phase are going to be only higher! But farmers have no clue what they are going to be asked to pay! In no state of India are the farmers charged to completely recover the O and M expenses. In this project, it would clearly be impossible, considering the much larger O&M costs of this project compared to standard gravity fed canals. Is this than a ploy to create a water source of urban and industrial areas?

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However, besides requiring the statutory impact assessments and clearances, the next phase will also have serious inter state implications for the Narmada river’s downstream Gujarat state (even NKPP will transfer 158 MCM of water). Gujarat sees Narmada River and the Sardar Sarovar Project on it as its lifeline. The large no of projects that MP is building and planning to build on Narmada is going to have serious implications for Gujarat. With hydrological basis of the Narmada Water Disputes Tribunal, on basis of which Sardar Sarovar has been designed, already in doubt, Gujarat would be wary of this. Now with these Madhya Pradesh plans of transferring water outside the basin, Gujarat would be very worried! And so would Modi! But as recent Madhya Pradesh decisions have shown, Madhya Pradesh is least bothered about downstream states.

In fact, while the discredited ILR is included in Modi’s Lok Sabha elections agenda, he was missing from the scene at this major ILR moment when the scheme was dedicated to Malwa. May be, Gujarat’s worries at Madhya Pradesh schemes are somewhere a reason for his absence?

In Madhya Pradesh itself, some religious heads have started to question the Narmada Kshipra Pipeline Project, state government had to deploy police to stop such protests. Farmers in Omkareshwar command filed a petition in the High Court to stop the project. Media have also started writing critically on this. It is clear, to paraphrase the words of famous film qawalli of yester-years (with apologies to poet Sahir Ludhianwi), Bahut kathin hai dagar panghat ki... Full page advertisements at public expenses, making unfounded claims about river linking are much easier!

Himanshu Thakkar

Time line of Kshipra Narmada Pipeline Project

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
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<tbody>
<tr>
<td>April 8, 2007</td>
<td>A global call floated by NVDA to invite EoI for selecting a consultant for DPR</td>
</tr>
<tr>
<td>Aug 8 2012</td>
<td>The approval of project was given by the CM, to be completed in one year</td>
</tr>
<tr>
<td>Aug 27, 2012</td>
<td>Tenders invited</td>
</tr>
<tr>
<td>Oct 12 2012</td>
<td>Official sanction for Rs. 432 Crore was accorded</td>
</tr>
<tr>
<td>Oct 19 2012</td>
<td>Approval letter issued</td>
</tr>
<tr>
<td>Nov 5, 2012</td>
<td>Contracts signed (not clear who are the contractors)</td>
</tr>
<tr>
<td>Nov 29 2012</td>
<td>Mr. L K Advani laid the foundation stone</td>
</tr>
<tr>
<td>Feb 25 2014</td>
<td>Project to be dedicated to the nation after time over run of 25%</td>
</tr>
</tbody>
</table>

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9 http://sandrp.wordpress.com/2013/11/22/dams_interstate-chambal-basin_madhya-pradesh_rajasthan/
10 http://freepressjournal.in/shardarshan-sadhu-samaj-agrees-to-take-holy-bath-with-narmada-water/
12 Very valuable inputs given by Rehmat of Manthan Adhyayan Kendra on this article is gratefully acknowledged.
Chinki Major Irrigation Project on Narmada: MP’s obsession with Large Irrigation Dams & WAPCOS’s shoddy reports

In recent years Madhya Pradesh (MP) has been on a Major Irrigation project spree. Some such projects at various stages of Environmental and Forest clearance from MP recently include the Kundaliya Major Irrigation Project which will submerge nearly 8000 hectares of land and displace more than 50000 people, Kalisindh Major Irrigation project which will submerge nearly 5000 hectares of land and displace more than 25000 people, Mohanpura Major Irrigation project which will submerge more than 7000 hectares of land and displace more than 40,000 people and Bansujara Multipurpose project on Dhasan river (Betwa/Yamuna basin) which will submerge more than 5200 hectares (though the Environment Management Plan (EMP) of the project also done by WAPCOS (Water and Power Consultancy Services) then says that submergence will be 7476 hectares!) and displace at least 25,000 people.¹,²

It is significant to note that Madhya Pradesh has one of the worst records of dealing with rehabilitation and resettlement of affected population. The state is struggling with several serious issues including mining (including illegal mining), sand mining, deforestation, alienation of tribes from their lands and rights, etc. It is also significant that it was at the behest of Madhya Pradesh Chief Minister Shivraj Chouhan that the clause of Social impact Assessment for Irrigation Projects and land for land compensation for affected population was deliberately removed from the new Land Acquisition Act 2013 (The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013)³. How the Union government agreed to this blackmail is another question.

Chinki Project Latest addition to the long list of irrigation projects in MP is the Chinki Major irrigation Project in Narsinghpur District, proposed by the Narmada Valley Development Authority (NVDA). The project envisages irrigation for 89,029 ha of gross command area in Narsinghpur and Raisen Districts and 15 MW of hydro power generation. This project will affect more than 8000 hectares of land and affect a whopping 49 villages in Narsinghpur and Jabalpur according to its preliminary estimate. The project was awarded Terms of Reference Clearance by the EAC of the MoEF in its 58th meeting in June 2012. Recommending TORs (Terms of Reference, which is the first stage clearance) implies that the pre-feasibility study has been done thoroughly and the same is appraised in detail by the MoEF’s (Ministry of Environment and Forests) EAC (Expert Appraisal Committee) for River Valley Projects.

Shattering all these assumptions, we see that Chinki Multipurpose project has applied for TORs again and was on agenda for the 72nd EAC meeting held on Feb 20-21, 2014 for strange reasons. A perusal of the new PFR (Pre Feasibility Report) exposes that the initial PFR and assumptions were flawed beyond imagination! The initial PFR was done by WAPCOS, which is under the Ministry of Water Resources of India. WAPCOS has been routinely churning out studies of substandard quality and seems to have a strong bias AGAINST environment and people. At the same time, this incidence raises a question mark over the so called “detailed scrutiny” that is done by the EAC of the MoEF while appraising a project. SANDRP studied the new proposal in detail and sent comments to the EAC, MoEF. Excerpts from the submission are given here.

Vast difference between two PFRs! It is shocking to see the drastic changes between the two PFRs, considering that the dam site and command is staying exactly the same. Comparison of original project features with revised features reveals that the changes in project features include-

² Other recent projects include Pancham Nagar Multipurpose project in Ken River Basin requiring 2260 ha of land, Pawai irrigation project on Ken River in Panna district, Runjh irrigation project in Panna district, Datuni irrigation project in Dewas district, Sip Kolar River link project, Upper Ghogra irrigation project in Sehore district in Narmada basin and Tori Tank project in Badwani district.
Despite of the very poor track record of Rehabilitation and Resettlement, Madhya Pradesh is on mega irrigation projects spree submerging thousands of hectares of land and displacing lakhs of people.

- **Catchment area decreased by more than half the original** from 8,802 sq. km to 4,377 Sq. km
- **Dam height decreased** from 35.5 m to 30 m.
- **Submergence increased more than twice** from 3,250 Ha to 6,995 Ha
- **Land to be acquired nearly doubled** from 4,150 Ha to 7,895 Ha
- **FRL decreased from 348 m to 340 m.**

**So with lesser catchment area, same dam location, lower dam height, the submergence area has more than doubled!!**

These facts highlights how shoddy and unreliable the initial PFR done by WAPCOS and put forward to the EAC was, which was cleared by the EAC. This is a clear case of providing factually wrong reports to the EAC and MOEF and EAC and MoEF should take a clear stand on this instance and suggest necessary punitive steps against the Project Proponent and WAPCOS. This is yet another instance of shoddy work of WAPCOS.

It is high time that the EAC and MoEF blacklist WAPCOS for its conflict of interest and poor quality work. The EAC should not award a new TOR for this scheme, but should ask the MP government to change its EIA consultant, enquire into the reasons and persons responsible for this fraud and undertake necessary steps, including points raised below.

**CIA should be mandatory before considering any more projects** The 58th Meeting itself noted the severe over-development of Narmada Basin in Madhya Pradesh and beyond. The Chinki Multipurpose Project on the Narmada is sixth project after the Upper Narmada, Raghavpur, Rosara, Basania and Bargi Projects, amongst the schemes proposed in the upstream of this site on river Narmada. There are 7 existing projects in the Narmada Basin namely, Karjan (Karjan River), Sukta (Sukta River), Tawa (Tawa River), Barna (Barna River), Bargi (Narmada River) and Matiyari Major (Matiyari River). There are 7 on-going projects namely; Sardar Sarover on Narmada River, Jobat (Hathni River), Man (Man River), Upper Beda (Beda River), Maheshwar, Omkareshwar and Narmada Sagar on Narmada River. Besides these projects, there are 17 projects proposed in the basin!

**Most of these projects are fraught with serious issues related to massive displacement, forest submergence, poor rehabilitation and resettlement, tribal issues and forest rights, reservoir fishing leases, legal and procedural issues, questionable benefits, lack of assessments or appraisals, etc.** Considering these issues and also MoEF’s Office Memorandum of May 28, 2013, a cumulative impact assessment of all projects in Narmada, including the carrying capacity study should be carried out. This was recommended by the EAC also in its 58th meeting. However, this study should not be conducted by MP Govt or NVDA or WAPCOS, as there is a clear conflict of interest. The study should be carried out involving a multidisciplinary team of independent experts & local participation after TORs of the study are discussed in public domain. Only after such a study has been approved through a participatory process should other projects be considered.

**Madhya Pradesh’s extremely poor track record of rehabilitation & resettlement** For almost three decades now agitations have been going on against MP Govt’s poor R&R. In one of the latest episodes, in Aug 2012, several affected people from Omkareshwar and Indira Sagar Dam undertook a Jal Satyagrah for 17 days together against absence of rehabilitation by MP Govt. The Supreme Court issued a show cause notice to MP Govt and again in 2013, the SC passed strictures against MP Govt when the latter tried to demand an undertaking from farmers affected by the Omkareshwar dam to the effect that they will not demand compensatory land under the rehabilitation policy. The MP Government has indulged in a number of unfair and unjust practices about rehabilitation and resettlement. It is to be noted here that at least 5 villages submerged by the Omkareshwar dam were not even envisaged to be submerged, indicating the blunders in planning, as well as insensitivity to the displaced population. Affected population of Omkareshwar had to risk their lives while protesting against the unjust ways of MP Government. MP govt’s injustice to SSP affected people is well known, the govt just refused to provide land to the displaced people. MP govt has also shown least concern of the impacts of such projects on the downstream states.

Again last year, oustees from Omkareshwar, Indira Sagar, Maheshwar, Maan and Upper Beda all protested together in Bhopal. The EAC should be aware of the past performance of MP govt in this regard, it should not give TOR clearance for Chinki project which will submerge nearly 8000 ha of land.

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4 [http://www.downtoearth.org.in/content/omkareshwar-dam-sc-issues-contempt-notice-madhya-pradesh-over-resettlement-oustees](http://www.downtoearth.org.in/content/omkareshwar-dam-sc-issues-contempt-notice-madhya-pradesh-over-resettlement-oustees)

While it is good that the EAC has asked NVDA to send response to SANDRP submission, as mentioned in the minutes of the 72nd EAC, the EAC clearly needs to go beyond just asking the Project Proponent to send in response to SANDRP submission. It needs to apply its mind to the adequacy of the responses from project proponents, which EAC is not doing, as reflected by the minutes. The EAC and MoEF also need to take action against the project proponent, the consultant WAPCOS as suggested here.

**WAPCOS's poor track record** Time and again WAPCOS reports have proved to be of poor quality, aimed only at pushing projects and not concerned at all with any objective or rigorous assessment of the impacts. We have pointed this out to the EAC several times, latest related to Kundaliya, Bansujara and Mohanpura Irrigation Projects in MP, and Kangtangshiri HEP in Arunachal Pradesh, but the EAC and MoEF do not seem to be bothered by these serious problems. NGT has indicated that problematic EIA agents need to be blacklisted, but MoEF is not ready to blacklist WAPCOS. Even the Forest Advisory Committee, a statutory body and EAC itself, has passed strictures against WAPCOS.

**Plagiarisation** In Chinki Project too, section on wildlife and forests is in fact a description of Kanha National Park, which is far away from the project site. The section says: “At times one is surprised that wild life has survived so well despite the decades of senseless slaughter indulged in by the so called big-game hunters.” This seems unrelated to the project site and is plagiarized from a MP tourist website!

**No mention of cumulative impacts** The PFR makes no mention of evident cumulative impacts. The entire section on environmental impacts is superficial.

**Discrepancies** The EAC had specifically noted the impact of 2 kms tunnel on forest land. At page 6 and 24, PFR mentions length of tunnel to be 66 meters. At page VII-4, the length of the same tunnel becomes 2.025 kms and at VII-49, it becomes 2.5 kms!

**Form I** In the section 9 on Cumulative impacts, the Form I says there are no cumulative impacts! This is absolutely incorrect when the hydrology, sociology and ecology of the Narmada basin is being changed by severeral existing, planned and uconstruction dams in the basin.

**Rainfall in command is nearly 1200 mm! Options Assessment needed** The PFR states: “The purpose is to develop irrigation to about 74273 ha culturable command area spread over the Narsinghpur and Raisen Districts to improve the irrigation system by supplementing limited and erratic rainfall.” (Emphasis added.) Now the average rainfall of Raisen and Narsinghpur Districts is **1200 and 1192 mm respectively**! This is by no means limited. The taluks to be services by the project: Kareli, Tendukheda, Barely and Udaipur have good groundwater irrigation. Barely is the biggest Gud Mandi in India and also has a good network of canal irrigation. In such a situation, rainwater harvesting, groundwater recharge, incentivising proper cropping pattern & watershed management should be the first options rather than large dams. But there is not even an attempt at proper options assessment here.

In fact, looking at the dependence on groundwater and the groundwater potential of the region, the Central Groundwater Board recommends creation of several percolation tanks.\(^9\)

Considering all these issues, we requested the EAC not to award TORs to Chinki Irrigation Project unless Cumulative Impact Assessment is completed, thorough options assessment is done and a holistic view of human and ecological development in Narmada Basin in Madhya Pradesh is adopted. We also expect the EAC to recommend action against the Project Proponent and WAPCOS for submitted factually wrong reports to EAC and MoEF.

The minutes of the 72nd meeting of EAC\(^11\) said on this: “In addition, a copy of the representation received from *South Asia Network on Dams, Rivers and People* where number issues have been raised. A detailed response needs to be given by NVDA on these issues. A copy of the representation was made available to NVDA for their response. On receipt of response on the above points and relevant documents, the project may be reconsidered for TOR approval by EAC.” The EAC clearly needs to go beyond just asking the Project Proponent to send in response to SANDRP submission. It needs to apply its mind to the adequacy of the responses from project proponents, which EAC is not doing, as reflected by the minutes. The EAC and MoEF also need to take action against the project proponent, the consultant WAPCOS as suggested above.

Amruta Pradhan, Parineeta Dandekar

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7 http://sandrp.wordpress.com/2013/11/12/bansujara-irrigation-project-in-mp/
9 http://www.madhyabharat.in/tourism/kanha.htm
10 http://www.cgwb.gov.in/District_Profile/MP/Narsinghpur.pdf
11 http://environmentclearance.nic.in/writereaddata/Form-1A/Minutes/0_0_311412561216172ndMinutesofEACmeeting.pdf
Cumulative Impact Assessment of Siang Basin in Arunachal Pradesh: 
Pro-hydro bias & Serious shortcomings

Most of the major rivers in the North East India are largely free-flowing till date, which is a rarity in India. Their basins are home to unbelievable ecological and cultural diversity. Main rivers in Arunachal Pradesh which form the mighty Brahmaputra are the Siang (known as the Yarlung Tsang Po in Tibet), Dibang and Lohit, which meet at the trijunction to form Brahmaputra and also Subansiri, Kameng and Tawang. Massive hydropower projects are planned on these rivers in cascade. Siang River alone has 44 dams planned along its entire length. Yes, 44 dams. You have read it correctly. At least 44 dams in one sub basin of Brahmaputra River Basin. This is what was meant by ‘MOU virus’ as Jairam Ramesh described it.

A strong pro-hydro bias of State and central Governments, Project proponents, EIA agencies, supposed regulatory agencies like the CEA and CWC, EAC as well as the Ministry of Environment and Forests has been witnessed surrounding studies and decision-making of these projects. In the past, EIAs and basin studies have conveniently ignored destructive impacts of these mega hydro projects on the society, forests, rivers, biodiversity, ecosystems, cultural identity and downstream Assam. Despite the poor quality and evident pro hydro bias of such studies, MoEF has issued clearances based on these. MoEF has never rejected any study for its poor quality. CIA (Cumulative Impact Assessment)/ CCS (Carrying Capacity Study) of the Siang Basin by RS Envirolink Technology is no exception. The study was considered by the Expert Appraisal Committee of the MoEF in its 72nd meeting in Feb 2014. SANDRP sent comments about this 2-volume study with over 1500 pages to the EAC, MoEF. Excerpts from this submission (as given below) highlight the serious shortcomings and bias of the study. The recommendation of dropping 15 (mostly small ones, all below 90 MW installed capacity) HEPs and re-configuring some others is welcome, but is far from sufficient.

SANDRP has been analysing basin studies in the Western Himalayas and Brahmaputra Basin for some time now. Looking at the aggressive cascade hydropower development and its far reaching cumulative impacts, CIA/CCS and Basin Studies should form the backbone of informed decision making by MoEF.

Unfortunately, most studies being considered by the EAC are of a sub-standard quality and are shying away from addressing the cumulative impacts [1]. EAC itself is delinking appraisal of individual projects from basin studies, rendering the crucial process meaningless which is in violation of EIA notification of Sept 2006, wherein Form 1 Section 9 actually asks for cumulative impact assessment. Some of the recent orders of National Green Tribunal also make it CIA mandatory, thus making such delinking legally untenable. Looking at the scale of ecological and social impacts of these projects and the significance of MoEF’s and EAC’s role, EAC and MoEF should consider CIA/ CCS/ Basin Studies more seriously. Main issues with Siang Basin Study include the following: (These are elaborated with reasons below.)

1. No mention of social and cultural impacts!
2. Downstream impacts on Assam not studied in detail
3. Cumulative Disaster vulnerability, impact of projects on such vulnerabilities, Dam Safety Assessment, risk assessment not done
4. “Cumulative” Impacts not assessed on several aspects
5. Non-compliance with critical recommendations by the EAC:
   a. Study is not compatible with similar studies done worldwide
   b. No suggestions about ramping to reduce downstream impacts
   c. No recommendation on free flowing length between two projects
   d. No mention of cumulative impact on sediment regime

Three proposed mega dams on the main Siang will convert the free flowing river into a three-stepped reservoir, without any flowing length of the river! These dams alone will affect more than 18,000 hectares of forests. However, the CIA study does not raise any uncomfortable issues about these dams, but implicitly supports them. If all the dams are built, water level fluctuations in the downstream D’Ering Sanctuary will be more than 23 feet every single day in the winter and other non monsoon seasons!

e. No mention of impact of road construction
f. BBM for eflows not used, despite agreeing to use it before EAC
g. Impact of Sand mining, boulder mining not conducted
h. Impact of specific projects not clearly studied

6. Eflows, one of the most significant issues, handled erroneously: NO ACTUAL ASSESSMENT OF E- FLOWS REQUIREMENTS AS REQUIRED BY TORs

7. No mention of Climate Change, reservoir emissions vis-à-vis cumulative impacts of such massive scale, how the projects would affect the adaptation capacity of the communities and region in the context of climate change

8. No stand taken on three mega projects on Siang Main Stem and other big hydro projects

9. No conclusion about how much length of the river is to be compromised

10. Number of sampling locations: TOR not followed

11. Source of information not given

12. Inconsistency, contradictions in listing of flora-fauna

13. Unsubstantiated advocacy: going beyond the TOR & mandate

14. Other inadequacies of CIA

15. Study should not be finalised without credible Public consultation across the basin.

DETAILED CRITIQUE

1. No mention of social and cultural impacts! In the entire basin study, there is no mention of social and cultural impacts by these 44 projects which will together submerge more than 21,000 hectares of forests and affect the entire Siang Basin adversely. Needless to say, local communities depend heavily on the basin resources like fish, medicinal and food plants, timber varieties for their livelihoods. For example, more than 2000 hectares of multi-cropped, irrigated rice fields will be submerged by Lower Siang Project alone.

The CIA/CCS study needs to be re-conducted, in which social and cultural cumulative impacts are assessed with participation of local communities and downstream communities from Arunachal Pradesh and Assam. It may be remembered that Public Hearing of Lower Siang (in the latest instance, slated to be held on 31st January 2014) had to be cancelled due to a number of procedural issues, and also opposition from local residents [2]. It is incomprehensible how the CIA Study has no assessment of impacts on communities!

2. Downstream impacts on Assam not studied in detail The study assesses impacts specifically on Dibrugarh, Bokaghat (Kaziranga) and Guwahati. However, there are several villages, settlements, tea estates, agriculture, forests etc., on the Right Bank of Siang in Assam after Pasighat. This includes a major part of Dhemaji District of Assam. Impact on this region needs to be assessed. There has been opposition to Siang Dams from places like Jonai from Dhemaji, which have been ignored.[3] According to the model used, the chainage for assessing impacts at D’Ering Sanctuary is between 20-33 kms from Lower Siang Dam. The next chainage is at 102 kms at Dibrugarh. Impacts on the stretch between D’Ering and Dibrugarh, for nearly 70 kilometres are simply not assessed! What can be reason behind this?

82.26% of the Siang basin is under forest cover (more than 15,000 sq kms), it is rich in orchids (more than 100 species!), holds 16 species of rhododendrons, 14 species of Bamboos and 14 species of canes and overall 27 RET species and 46 endemic plant species. 25 (18%) mammalian species found here are Schedule I of WPA (Wildlife Protection Act), while 26 are under Schedule II! There are 447 species of birds, of which 31 are Schedule I species. The basin consists of 5 Important Bird Areas!!

Level fluctuations at D’Ering Sanctuary, with Lower Siang, Middle Siyom and Upper Siang Projects is to the tune of 7.2 meters (23.66 feet!!) in lean season. This highlights the need to study impacts on the intermediate zone in Assam between Dering Sanctuary and Dibrugarh. The Study should not be accepted without these assessments.

Siang River photo from the CIA
3. Assessment of Cumulative Disaster vulnerability, impact of projects on such vulnerabilities, Dam Safety Assessment, risk assessment not done Upper Siang I, II and Lower Siang are huge projects with direct impact on downstream state. Even as issues of dam safety and risk assessment have gained high significance in Assam as can be seen in struggle against the Lower Subansiri protests, the basin study/CIA does not include a word on dam safety, cumulative risk assessment, risk of landslips and landslides, seismic zones of projects, past earthquakes in the region, possible mitigation measures, disaster management, etc. There is no assessment of baseline situation about disaster vulnerability of the region and how the projects will change that. By its nature, a CIA/CCS/ basin study is best placed to assess these impacts.

These points have been raised by KMSS, Assam and others. The Uttarakhand disaster of June 2013 underlines this and even the Supreme Court of India has asked for an assessment of how hydropower projects contributed to disaster in Uttarakhand. Looking at Uttarakhand Disaster as well as protests from downstream Assam where dam safety is a major issue, dam safety needs to be addressed in the CIA/ CCS. In the absence of all this, projects will not be allowed by communities, as can be seen with Lower Subansiri and Lower Siang.

4. Cumulative impacts not assessed on several aspects The study has a sketchy section (Chapter 11) on Cumulative impact assessment. The minutes of 62nd EAC meeting noted, “The main objective of the study is to bring out the impact of dams being planned on the main Siang River and its seven tributaries on terrestrial and aquatic ecology, plant and animal biodiversity, including wild life, hydrology of the basin, etc.” However, the study has not placed emphasis on assessing these impacts. Moreover, the study does not attempt to assess cumulative impacts of all the projects due to:

- **Blasting and Tunnelling** This is not mentioned even once in the entire study! When the disastrous impacts of blasting, tunnelling and related activities are fresh in our minds w.r.t Uttrakhand and Himachal Disasters, it is incomprehensible to see that this section is not mentioned at all in the basin study!

- **Community resources** No mention on loss of agricultural lands, homesteads, displacement, loss of forest rights, etc.

- **Infrastructure development** No mention of the impact of workers colonies, buildings on the society, landscape and cultural aspects, etc.

- **Greenhouse gas Emissions** Considering submergence of more than 20,000 ha of dense to very dense forests and building of a large number of reservoirs in tropical climate, cumulative impacts on greenhouse gas emissions should have been assessed.

- **Biodiversity, RET Species, Deforestation** While the report deals with these issues very sketchily, there is no statement as to what will be the cumulative impact of 44 projects on the above issues.

5. Non-compliance with critical recommendations by the EAC Interim basin study was discussed in the 62nd EAC meeting in Nov 2012. The EAC had given some important recommendations at that stage to be included in the study. However, most of the recommendations have not been complied with, these include:

- **Study is not compatible with similar studies done worldwide** EAC had specifically recommended compatibility with global studies. However, Siang CIA is not compatible with any global Basin and Cumulative impact Assessment Study. A Cumulative Impact Assessment is a multi-stake – holder process that assesses the cumulative and indirect impacts as well as impact interactions of the proposed dam or set of dams, as well as existing and planned projects from other sectors, on ecosystems, communities, and identified Valuable Ecosystem Components (VECs) within a specific spatial and temporal boundary. [4]

- **No suggestions about ramping to reduce downstream impact** EAC had specifically asked for ramping study with reference to downstream impacts. However, ramping studies are not done at all, although downstream impacts of the projects in isolation as well as together are huge.
• No recommendation on free flowing length between two projects Although Upper Siang I, Upper Siang II and Lower Siang have no free flowing stretch between each other, the study refrains doing any assessments or from making any recommendations in this regard, contrary to EAC’s recommendation.

• No mention of cumulative impact on sediment regime 44 projects with several mega reservoirs will have a profound impact on the sediment regime of the rivers as well as downstream impacts thereof. EAC had specifically asked to include sediment balance and impact, which is not discussed in the report.

The minutes of 62nd meeting of EAC says: “The Consultants were also asked to study and recommend on silt management considering “no dam” and “with dam” scenario as silt substantially impact the ecology and cause sedimentation particularly when its velocity is affected d/s due to construction of dam.” No such study has been conducted. In fact globally, sediment balance on cascade projects is a crucial element of study, which is completely left out in the present study.

• No mention of impact of road construction Roads and related activities like deforestation, slope destabilisation, blasting, mining, muck dumping, all the cumulative impacts of peaking operation (needs to be done comprehensively, including the limitations that such operation of upstream projects will impose on downstream projects), etc have a critical impact on fragile geology. Role of roads for hydel projects was significant in Uttarakhand Tragedy in June 2013. EAC had specifically asked for “Impacts due to construction of approach roads”. This point is not touched upon in the report.

• BBM for eflows not used, despite agreeing to use it in front of EAC Although the consultant agreed in the 62nd meeting that BBM will be used to assess eflows regime,[5] at the insistence of the EAC, in reality BBM has not been used in the study. The reasons given [6] that BBM is a “prescriptive approach”, “it takes too much time” and “only stakeholder in the basin is river and fish” is wrong, shocking and unacceptable.

• The study forgets about the people, biodiversity and other stakeholders. Requirements of BBM were known at the time consultant agreed to use this methodology before the EAC. Is fluvial geomorphology, cultural practices, hydrological requirements and sediment balance not important blocks of BBM study?

• Impact of Sand mining, boulder mining not conducted EAC had specifically asked for this study. This is critical as mining of sand & boulders from river bed has severe impact on riverine ecology, bed stability, erosion, flow velocity, etc. The report does not even mention this issue.

• Cumulative Impacts of projects on biodiversity in sub-basins not clearly studied While the study has prepared impressive looking inventory of ecological attributes of 11 sub basins, it has fallen woefully short in clearly communicating the individual and cumulative impacts of projects on Valued Ecosystem Components (VECs). This reduces practical application of the report. EAC had brought this up during the 62nd meeting.

• Length of rivers to be assessed for downstream studies As per minutes of the 43rd meeting of EAC held in Nov 2010 the report was to recommend: “What may be criteria for downstream impact study in terms of length of the river downstream to the tail water discharge point and what may be the parameters of such a study”.

The same EAC meeting recommended: “If the states do not change their policy of allotting elevation-wise river reaches for hydropower development, what criteria the EAC may adopt in restricting the river reach for hydropower development. Alternatively, what should be the clear river length of uninterrupted flow between the reservoir tip at FRL of a downstream project and the tail water discharge point of the immediate upstream project.”

“For peaking stations, what extent of diurnal flow variation may be considered safe for the aquatic life. There are examples where the release is drastically reduced during the long time for reservoir filling and huge discharge flows through the river during the few hours of peak power generation. This is detrimental to the aquatic environment of the downstream stretch of the river.”

“For muck disposal, what may be minimum distance that must be maintained between the outer boundary of the muck disposal sites and the river bank.”

None of this has been done in the report.

6. E-flows handled erroneously: No E-flows Assessment performed The CIA has not done assessment of e-flows requirements at various locations keeping in mind the upstream projects. The very crude assumption it has made is by dividing the entire basin in
Mahseer and Trout Zone and assuming certain water depths for these fish in lean, monsoon and non-lean, non-monsoon months. Several fisheries scientists do not support this classification or accept these two species alone as representing the ecosystem. The study assumes 50 cms water depth for Mahseer and 40 cms depth for Trout in lean season.[7] Then flows for maintaining that particular depth are calculated and recommended. Added criteria is that depth should not be less that 50% pre-project river depth.

Here it is worth quoting the minutes of 62nd meeting of EAC: “The EAC asked the Consultants to take comprehensive view of the environmental flow assessment and make final recommendations for each stretch. Committee asked to study international literature available on the subject and use the best suitable methodology for this exercise suiting to Indian conditions. The Consultants said that most appropriate method such as Building Block Methodology would be used by them. Detailed habitat simulation modelling for the entire year needs to be considered so that flow release requirement can be established not only for lean season but also for monsoon season and other months… The Consultants while submitted that public hearing as such is not a part of the study as per ToR, informed that BBM entails expert and stakeholder s consultations and would be followed.”

None of this has been done. In addition, the consultant’s approach is incorrect on various counts:

• **The habitat requirements of Mahseer and Snow Trout are higher than the assumed 0.5 m and 0.4 m.**

• This has been confirmed by several fisheries scientists. The WII study on Upper Ganga Projects recommends a minimum of water depth of 1 meter for adult Mahseer (Tor species) (Table 7.6, Page 148) and at least more than 50 cms for Trouts (Schizothorax spp) (Table 7.8, Page 150). Incidentally these tables from WII Cumulative Impact Assessment have been used in the report without stating the source or credit. SANDRP has interacted with several fisheries experts who conclude that 0.5 meters is a completely inadequate depth for adult Mahseer.

• This faulty assumption has led to low e-flows recommendations of 15% of average flows in non-lean non-monsoon months for Heo and Tato I Projects, this is lower even that EAC’s norms. This assessment and recommendations are clearly unacceptable.

• **The criteria of 50% water depth wrt pre-project depth is arbitrary and without any scientific justification.** For Himalayan rivers with a hydrograph like Siang, 50% depth reduction is very high. As can be seen from Eflops chapter, after 50% depth reduction, most river stretches have less than 100 cms depth, which is just about the minimum depth required for an adult Mahseer or a spawning snow trout. However, Mahseer and trouts are abundant in these rivers. This just indicates the problems about 50% water depth criteria. This should not be accepted.

The entire eflops discourse is not based on assessment of environment flows for various objectives and ignores most critical requirements.

7. **No mention of Climate Change** In the entire study, there is no mention of climate change, how changing climate would affect the rivers and projects and how project construction would add to climate change impacts and how they will reduce the adaptation capacity of the people and environment to cope with the changing climate. Deforestation to the scale of 21000 hectares of thick forests and complete loss of a biodiversity rich free flowing river has strong impacts in the context of climate change and all this need to be assessed.

8. **No stand taken on three mega projects on Siang Main Stem and other big hydro projects** Three mega projects on Siang Main stem, namely the 6000 MW Upper Siang I, 3750 MW Upper Siang Stage II and 2700 MW Lower Siang will have a huge destructive impact on the entire ecology and society of the region. These three projects together will submerge 18,100 hectares of dense forest area and will convert entire river length between these projects: 208.5 kilometers, into unbroken sequence of reservoir-dam-reservoir-dam-reservoir-dam, with no flowing river between two consecutive projects. The study has not even attempted assessment of length of flowing river required between the projects and eflows allocation for this stretch.

These projects in a cascade, destroying a complete flowing river are against the principle of sustainable development and even EAC’s minimalist norm of 1 km of flowing river between projects. A CIA/ CCS study should have raised this issue strongly as these projects are undoing most of the other recommendations. However, the study refuses to take an independent stand against these projects and fails its mandate of being an independent study.

Similarly the study does not take stand on other big hydropower projects proposed in the basin. Most of the projects it has recommended to be dropped are relatively smaller projects, none are big ones. This shows bias of the consultants. The report is also not in consistent in its recommendations.

**Positive suggestions** The study recommends dropping 15 projects and keeping some tributaries free from any hydel development. It also calls for including small hydel projects under the ambit of EIA. These suggestions are important and should be accepted. EAC should immediately ask MoEF to recommend changes in the EIA notifications to include all hydro projects above 1 MW.

The study has also asked for change in parameters of Tato II, Hirong, Naying and Siang Middle HEPs so that at least 1 km of river is left flowing between them. This
9. **No conclusion about how much length of the river is to be compromised** One of the TORs of the study include, as per the minutes of the 43rd meeting of EAC held in Nov 2010: “Considering the total length of the main river in the basin and the HEPs already existing and planned for future development, how many more HEPs may be allowed to come up. In other words, how much of the total length of the river that may be tunnelled inclusive of the tunnelling requirement of all the projects that have been planned for development so that the integrity of the river is not grossly undermined.” (Emphasis added.) The report does not do an assessment on this. The B K Chaturvedi committee had recommended that not more than 50% of the river can be compromised. However, this report was to study this aspect, but has neither studied this, nor done analysis or reached any conclusion.

10. **Limited number of sampling locations** The minutes of 49th meeting of EAC held in April 2011 concluded that the number of sampling locations will be decided based on this criteria: 3 sites for project with over 1000 MW installed capacity, 2 sites for projects with 500-1000 MW installed capacity and one site for projects below 500 MW installed capacity. In addition 2-3 locations will be selected in the downstream areas.

If we go by this criteria, and considering 44 planned projects listed in the CIA, there should have been 15 locations for 5 projects with capacity 1000 MW or above, 4 for two projects with 500-1000 MW capacity and 37 for projects below 500 MW capacity, in addition to the

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**Time Line of Siang Basin Study**

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>Feb 2010</td>
<td>Ministry of Water Resources constituted an Inter-Ministerial Group on the directions of Prime Minister's Office with a view to evolve a suitable framework to guide and accelerate the development of hydro-power in the North East and also to assess the impact of the massive hydropower development in Arunachal Pradesh on downstream areas in Assam</td>
</tr>
<tr>
<td>Nov 2010</td>
<td>EAC discussed TOR for the Siang Basin CIA</td>
</tr>
<tr>
<td>Dec 23, 2010</td>
<td>MoEF issues TORs for the Siang Basin CIA</td>
</tr>
<tr>
<td>April 2011</td>
<td>EAC discusses sampling locations for the CIA on request of CWC</td>
</tr>
<tr>
<td>Dec 2011</td>
<td>Work of CIA for Siang awarded to RSET Pvt Ltd</td>
</tr>
<tr>
<td>May 2012</td>
<td>RSET says draft interim report discussed by TAC, but there is no meeting of TAC in May 2012, minutes of March and July TAC meetings (the ones before and after May 2012) on CWC website also do not mention any such discussion.</td>
</tr>
<tr>
<td>Nov 2012</td>
<td>EAC discusses Draft Interim report</td>
</tr>
<tr>
<td>Aug 2013</td>
<td>Draft Final report submitted to CWC</td>
</tr>
<tr>
<td>Sept 2013</td>
<td>RSET says Draft final report discussed by TAC, but the minutes of the Sept 2013 meeting of the TAC obtained under RTI donot contain any reference to the Siang basin study</td>
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<tr>
<td>DEC 2013</td>
<td>Draft Final Report submitted to MoEF</td>
</tr>
<tr>
<td>Feb 17, 2014</td>
<td>Critique of the Draft Final report submitted by SANDRP to EAC</td>
</tr>
<tr>
<td>Feb 20, 2014</td>
<td>MoEF's EAC to discuss the Draft Final report</td>
</tr>
</tbody>
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*L Section of the Siang River with 3 mega projects with no flowing river between them. Source: CIA of Siang Basin*
locations in downstream areas. The CIA has not followed these directions from EAC, else sampling locations would have been about 60 and not 49 as included in the report.

**11. Source of information not given** Several annexures in Vol II (this too should have been put up on EAC website, but has not been, we got it from other sources), including Annex I says that it is “PREPARED FROM SECONDARY DATA & FIELD SURVEYS”, but which information has been obtained from field surveys and which information is obtained from which secondary source is not given. In absence of this it is difficult to verify the claims.

12. Inconsistency, contradictions in listing of flora-fauna

- In volume II, Annex I titled “LIST OF PLANT SPECIES REPORTED FROM SIANG BASIN”, which is supposed to include data from secondary sources and field surveys lists 1249 angiosperms and 11 gymnosperms. However, the pteridophytes listed in Annex II titled “LIST OF PLANT SPECIES RECORDED FROM DIFFERENT SUB BASINS OF SIANG DURING FIELD SAMPLING” do not find mention in Annex I or Annex III a/b/c.
- Out of 11 Gymnosperms listed in Annex I, only two figure in Annex II, rest do not get listed in any of the sub basins.
- The species Dicliptera bupleuroides and Phlogacanthus thyrsiflorus listed in Annex 1 Angiosperms do not get listed in any of the sub basins.
- Similarly among the Rhododendron species, threatened species like Rhododendron boothii, threatened species like Rhododendron falconeri, newly discovered and critically endangered species like Rhododendron meehukae (even though it was found in Yargyap Chhu sub basin), Rare species like Rhododendron arizelum, Rhododendron dalhouseiea var. rhabdotum, Rhododendron kenderickii, and R edgeworthii are not found in Annex II or III.
- Endemic cane species Calamus leptospadix also do not figure in Annex II or III.
- The CIA says, “The Siang basin as discussed above is also very rich in floristic resources and there are still number of areas in the basin which are either under-explored or yet to be explored”, however, a CIA is supposed to make recommendation how to ensure that such areas are explored before any more projects are taken up, but this report makes no recommendation in this regard.
- The CIA says that 17 Near Threatened (regional level) medicinal plants, 46 endemic species and additional 55 endemic species are reported in Siang basin, but CIA neither gives list of them, nor locations, how these will be affected by hydropower projects or recommendations to conserve them.
- The scope of study given in Annex 1, Vol. I says: “Preparation of comprehensive checklist of flora (Angiosperms, Gymnosperms, Lichens, Pteridophytes, Bryophytes, Fungi, Algae etc.) with Botanical and local name.” However, we do not find the local names listed.

The situation with respect to fauna species is no different, with similar inconsistencies, lack of specific sub-basin wise situations and recommendations to conserve them. This is true in case of mammals, birds, butterflies, amphibians, reptiles, insects as also aquatic biodiversity. While the report makes some impressive general statements, but is found to be lacking in specifics mentioned above.

This sample list of inconsistencies and gaps shows that there are serious problems in these lists and the consultant should be asked to remove all these inadequacies. There is also need to get these lists peer reviewed by credible independent experts like those from WII.

13. Unsubstantiated advocacy: going beyond the TOR & mandate The CIA says in last para in section 12.3 titled “Downstream Impacts”, “Keeping the substantial storage requirement in Siang, storage projects in Siang needs to be re-configured, which may lead to merging of Siang Upper Stage I and II into single project to create storage.” There are several other such sentences in this section and elsewhere. This is uncritical acceptance of CWC assertions and is an advocacy for more storage projects in the name of flood moderation. This is clearly uncalled for in a CIA report and such uncritical acceptance of CWC assertions is also not what is expected from a CIA. In any case, this is also beyond the mandate of the CIA.

The EAC discussed the Siang CIA/ CCS in its 72nd Meeting. The Committee raised some issues, but the minutes indicate that EAC simply accepted consultant’s claims on e-flows. 72nd EAC minutes claimed that remaining presentation and discussions on Siang CIA will be held in the next meeting, but the study was not on the agenda for the 73rd meeting held in March 2014. At the same time, two mega projects (1000 MW Naying and 3750 MW Upper Siang II) from Siang Basin will be discussed in the 73rd meeting, without finalising the Siang Basin Study, making a mockery of the entire exercise.

14. Other inadequacies of CIA

- The CIA does not contain the TOR, the scope of the study given Annex 1 of Vol I is not the TOR.
- 49th EAC meeting had asked for inclusion of Experts from Assam in the study, but the study does not mention this.

- The 43rd EAC meeting held in Nov 2010 had asked for inclusion of assessment of the impacts of the projects on wetlands, floodplains, river morphology, sediment transport/erosion/deposits, impact on human activities and livelihoods and recommend necessary measures in these regard. The report mentions all these aspects, but fails to assess these impacts and make necessary recommendations.

- The Preface of the CIA claims that the TAC reviewed the draft interim report in May 2012 and draft final report in Sept 2013. We have checked the minutes of the TAC meetings and find that in May 2012 there was no TAC meeting. The 114th TAC meeting happened in March 2012 and 115th TAC meeting happened in July 2012, neither of the minutes include any mention of Siang basin study.

- The Sept 2013 meeting also did not include this report in its agenda. The report seems to be making false claims in this regard, they should be asked to provide minutes of the TAC meeting where this was discussed and what were the outcomes.

15. Study should not be finalised without credible Public consultation across the basin A comprehensive Siang Basin Study will give a cumulative picture of impacts on basin and on basin residents, including downstream population in Assam. The study is supposed to include important findings, which are separate from individual EIA reports. Even MoEF's Strategic 12th Five Year Plan notes:

"Of late, the limitations of project-level EIA are being realized internationally. Project EIAs react to development proposals rather than anticipate them, so they cannot steer development towards environmentally "robust" areas or away from environmentally sensitive sites. Project EIAs do not adequately consider the cumulative impacts caused by several projects or even by one project’s subcomponents or ancillary developments. The new trend is to address environmental issues earlier in planning and policy making processes. This could be done through cumulative impact assessment."

However, such a study cannot be complete without consultations held across the basin in a credible way with full information to the communities in the language and manner they can understand. The study should not be accepted without a credible process of Public hearing [8].

Conclusion The EAC should not consider individual projects unless the CIA/CCS study is approved through a participatory process. In Siang basin, the EAC has already granted EC to 2 projects, Scoping clearance to 16 projects (of which PH has been held for 8 projects) and nine projects will not need EC as they are below 25 MW. This renders the whole exercise of CIA/CCS meaningless! The EAC should consider projects from Siang Basin only after CIA-CCS is finalised and keep the scoping and environmental clearances of projects in abeyance till then.

The minutes of the 72nd EAC meeting notes about SANDRP submission: “The consultants also informed that they would submit point wise reply to issues raised by SANDRP before next presentation.” We will look forward to the response and also we hope EAC and MoEF would apply their mind to the adequacy of the response and such application will be reflected in the minutes of the EAC meeting.

Parineeta Dandekar, Himanshu Thakkar, Parag Jyoti Saikia

END NOTES:


[2] This news was covered widely in the media - Arunachal Pradesh Groups Ask MoEF to Cancel Illegal Public Hearing of Lower Siang. 2,700 mw Lower Siang Hydro Electric project runs into rough weather, GreenTalk: Activists to protest public hearing for dam on Arunachal’s Lower Siang river, Protests against Siang dam, Anti-dam stir hits Arunachal too, AASU, TMPK oppose move on Lower Siang project, Public hearing for Lower Siang project opposed, Several organisations demand scrapping of Lower Siang project.


[4] Some such relevant benchmark norms include:
- The World Commission on Dams Report, Nov 2000
- International Rivers, Dam Standards: A Rights Based Approach, January 2014
- The European Commission’s Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (1999)
- International Finance Corp’s (The World Bank Group) “Good Practice Note on Cumulative Impact Assessment and Management”, Jan 2013

[5] “It was informed that BBM would be applied in addition to other applicable methodologies for working out EFR. The Consultants while submitted that public hearing as such is not a part of the study as per ToR, informed that BBM entails expert and stakeholder’s consultations and would be followed.” 62nd EAC Meeting, November 2012

[6] Section 9.9 of the CIA Cc’s Report

[7] “To assess the minimum environment flow requirement in lean season a criteria has been defined that projects in the Mahseer zone needs to provide a minimum 0.5 m average depth in the initial reach studied, and for projects in the trout zone this depth is considered as 0.4 m.” (Section 9.6.1 Environmental Flows Assessment in Lean Season)

[8] Himachal Pradesh Government had conducted such a Public Hearing on Satluj Basin Study recently.

2 http://environmentclearance.nic.in/writereaddata/Form-1A/Minutes/0_0_311412561216172ndMinutesofEACmeeting.pdf
SANDRP's New Publication!

**Dams in tribal belt of Western Ghats for the Mumbai Metropolitan Region: Unjustified projects, when better options exist**

Mumbai Metropolitan Region is planning and building over 12 dams in the ecologically fragile, biodiversity rich Western Ghats region. This is a predominantly tribal belt.

By very conservative estimates, these dams will submerge more than 22,000 hectares land, including lakhs of trees, over 7000 of forests and 750 hectares of Tansa Sanctuary.

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Are these mega dams the only answer to Mumbai’s water problems?

Are any sustainable water supply options being studied? Are they even being considered?

How large is the footprint of our urban areas?

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SANDRP’s new report takes a look at all the new dams under construction or planning, and builds an overall picture through site visits, interactions with local groups, tribal communities, wildlife experts, water experts and groups from Mumbai working on equitable and efficient water management, etc.

**Foreword by Prof. Madhav Gadgil.**

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