

Dams, Rivers & People

Working for water resources development as if democracy, people and environment matter

Vol 11 | Issue 9-10 | October-November, 2013

Rs. 15/-

Index

Ten times bigger Mohanpura Dam in Madhya Pradesh	1
Bansujara Dam: Another Shoddy EIA by WAPCOS	5
Community Fish Sanctuaries protect the fish and their rivers	9
Mah ignores Riverine Fisheries	11
E-flows in India – groping in darkness	12
MEF Committee on UKD Hydro: Needs full mandate	14
A different COP that actually addresses climate change	15
New Publication: Yamuna Manifesto	16
Kasturirangan Report – a blueprint for political polarization in Kerala?	17
Gujarat builds Garudeshwar weir, Statue of Unity Without Clearances	20
“Address Impacts of Small Hydel Projects”	21
Media Hype Vs Reality	23
Hydro power projects violating SC order in greenest state of India	25
North East India Update	29
New Flood Forecasting System from Bangladesh	31
Flood Ravage and the Dams of Uttarakhand	32

Contact :

Himanshu Thakkar,
Parineeta Dandekar,
Damodar Pujari,
Parag Jyoti Saikia,
Ganesh Gaud
Dams, Rivers and People
C/o 86-D, AD Block, Shalimar Bagh
Delhi - 100 088, India.
Ph: + 91 11 2748 4654/5
ht.sandrp@gmail.com
http://sandrp.in
www.facebook.com/sandrp.in
http://sandrp.wordpress.com/

Another poor quality WAPCOS EIA tries to justify

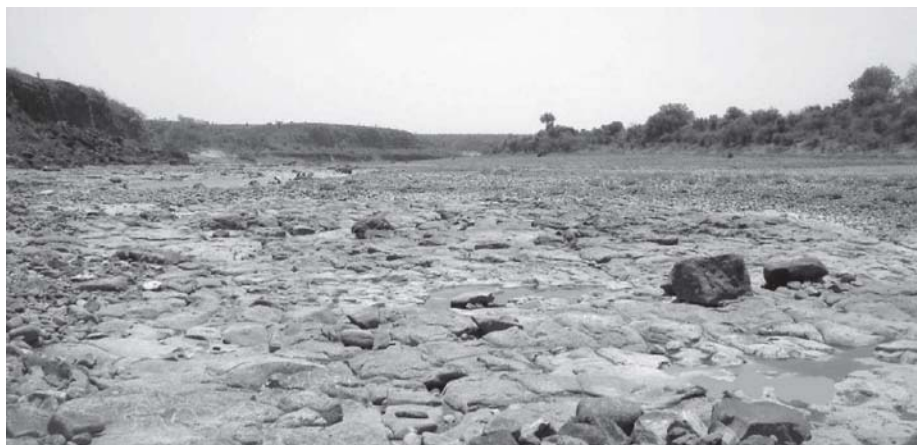
Ten times bigger Mohanpura Dam in Madhya Pradesh

Here is another¹ example of unacceptably poor quality EIA by WAPCOS. Just to illustrate, the EIA has not done any options assessment, has manipulated hydrology to justify a project with ten times larger live storage capacity than the capacity that NWDA had proposed for the same project, it has not even mentioned the project's impact on the National Chambal Sanctuary (one of the only two river sanctuaries of India also proposed as Ramsar site), for hugely inadequate R&R land and canal land requirement assessments, for not doing impact of mining of materials for the project, for making unfounded assumptions, among other reasons mentioned here. The whole EIA is done in most shoddy way and should be rejected for this reason and EAC should make recommendation for black listing of WAPCOS as EIA agency.

The Mohanpura Project The proposed Mohanpura dam is to be constructed by the Madhya Pradesh Water Resources Department near the village Banskhedi of District Rajgarh, Madhya Pradesh on river Newaj in Chambal River Basin. The earthen dam project envisages irrigation of 97,750 ha, including the irrigable area of 62250 ha in Rabi

and 35500 ha in Kharif in Rajgarh and Khilchipur Tehsils of Rajgarh district. The Environmental Impact Assessment (EIA) dated May 2013 has been done by WAPCOS, an agency under Union Water Resources Ministry.

The EIA and the EAC We have provided below some critical com-



Site of the proposed Mohanpura Dam (Source: EIA)

1 For an analysis of WAPCOS EIA of Bansujara irrigation project in Madhya Pradesh, see: <http://sandrp.wordpress.com/2013/11/12/bansujara-irrigation-project-in-mp/>

ments on the EIA, these are only indicative in nature and not comprehensive. These comments were sent to the Ministry of Environment and Forests' Expert Appraisal Committee (EAC) on River Valley Projects for its meeting in June 2013 and further comments for Sept 2013 and Nov 2013 EAC meetings. We were glad that EAC asked the project proponent to reply to our submission in detail. But we did not get any reply directly either from the project proponent or MoEF. On Nov 13, 2013, on clicking the EIA (which we assumed was the old EIA), what we got was the Oct 2013 response from the project proponent that supposedly included the response from WAPCOS to our submission. This seems like an attempt on the part of MoEF officials to camouflage/ hide the reply so that the reply is put up, but we do not get a chance to review and respond to it. This is clearly wrong and we have written on Nov 13, 2013 to that effect to the MoEF director Mr B B Barman who is also member secretary of the EAC.

In any case, the WAPCOS reply of Oct 2013 does not really provide adequate response to any of the points we raised. If the EAC decides to recommend clearance to the project based on this reply by WAPCOS, it will show lack of application of mind and bias on the part of the EAC.

EIA does not mention the project is part of Inter-Linking of Rivers

The Mohanpura dam is part of the Government of India's Interlinking of Rivers scheme, specifically part of the Parbati-Kalisindh-Chambal (PKC) scheme, see for example the mention of Mohanpura dam on Newaj river in salient features of the PKC scheme at: <http://nwda.gov.in/writereaddata/linkimages/7740745524.PDF>, the full feasibility report of the PKC scheme can be seen at: <http://nwda.gov.in/index4.asp?ssslid=36&subsubsublinkid=24&langid=1>. This hiding of this crucial information by the WAPCOS is tantamount to misleading the EAC and MoEF and should invite action under EIA notification.

Much bigger Mohanpura Reservoir proposed compared to the PKC proposal It is clear from the perusal of the Feasibility Report of the PKC link given on the NWDA website that the project now proposed by the Govt of Madhya Pradesh is much bigger and an unviable scheme. The Gross and live storage of the NWDA scheme is 140 MCM and 52.5 MCM, where as the proposal now has gross storage of 616.27 MCM and live storage of 539.42 MCM, which means the live storage proposed now is more than **ten times** the live storage proposed in NWDA scheme. In fact the NWDA scheme had the proposal to transfer 464 MCM from the

Patanpur Dam to the Mohanpura dam and yet, under the Mohanpura live storage capacity proposed under NWDA scheme was much smaller.

No justification for increasing the live storage capacity OVER TEN TIMES The issue is not only about how NWDA plans differed from the current proposal in terms of transferring 464 MCM water to Mohanpura dam from Patanpur dam and transferring 403 MCM from Mohanpura dam to Kundaliya dam. Net effect of these two transfers is addition of about 61 MCM water to Mohanpura dam in NWDA proposal from outside the Newaj basin. In spite of this addition, the storage capacity of the Mohanpura dam in NWDA proposal is **HUGELY LOWER** than in the current GOMP proposal. There is clearly no justification for such huge storage capacity from any angle. Even the water use plan has exaggerated figures. The issue is the viability, desirability, need and optimality of the ten times larger reservoir than what the NWDA proposed earlier.

Unfounded assumption about water availability

The project assumes huge yield of 745.2 MCM, much higher than that assessed by the Chambal Master Plan, without assigning any reason. This seems to be a ploy to push for unjustifiably huge reservoir.

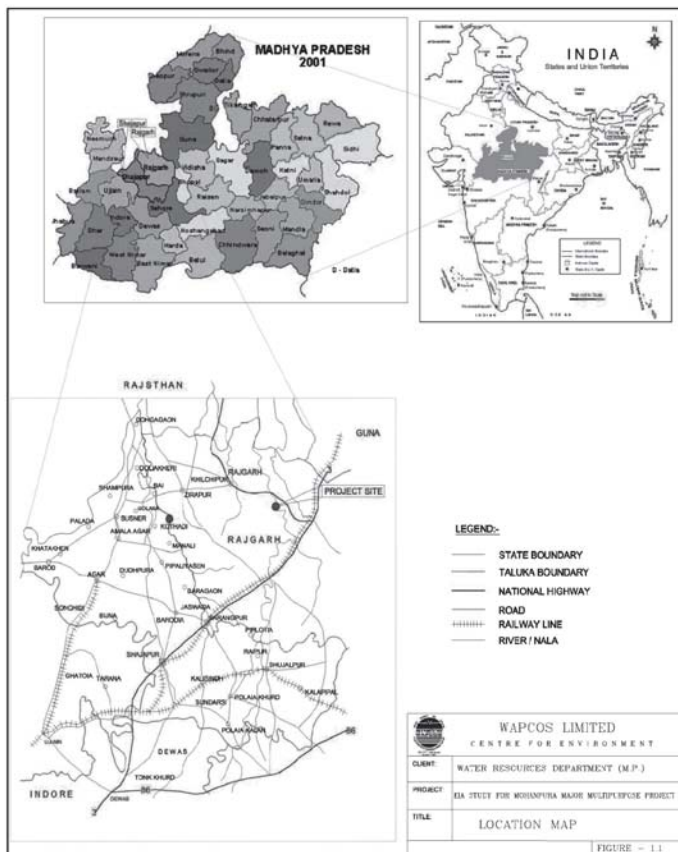
Inadequate assessment of upstream water requirement

The EIA does not do proper assessment of current and future water requirements of upstream areas and allocates almost all available water in the catchment to the project in a bid to justify unjustifiable project.

Unjustifiable submergence The proposal entails submergence of 7051 Ha, almost three times the submergence as per NWDA scheme of 2510 ha. The project proponent has hugely underestimated the number of affected families to 1800 against private land acquisition of 5163 ha. They have amazingly, allotted just 132 ha of land for R&R, when land for land provisions under the MP R&R policy will require much more than 5000 ha just for R&R. The social impact assessment has not been done at all. In fact the phrase *Social Impact Assessment* or *Social Impact* does not figure in the entire EIA, when the National Green Tribunal has been laying such a stress on SIA.

The SIA later submitted is shoddy. It is clear the huge displacement is unjustified, and the project proponent has no interest in even doing any just rehabilitation. The PP has not explained the justification for three times increasing the submergence area compared to the NWDA proposal.

There is clearly no justification for such huge storage capacity from any angle. Even the water use plan has exaggerated figures. The issue is the viability, desirability, need and optimality of the ten times larger reservoir than what was earlier proposed.



Location map of the Mohanpura Project (Source: EIA)

Interstate aspects ignored The project is coming up on an interstate river basin and will have clear implications for the downstream state of Rajasthan, but there is no mention of this in the EIA. Several meetings have also happened between Madhya Pradesh and Rajasthan about the PKC link mentioned above. The Government of India has prioritized this link, but by taking up this project unilaterally without consent of Rajasthan or Centre (Ministry of Water Resources) the Madhya Pradesh government is violating the interstate and federal norms. The EIA does not even mention any of these issues.

Underestimation of Land required for Canal The project has command area of 97750 ha and claims that it will require just 152 ha of land for canals (table 2.6 of EIA), which is clearly a huge under estimate and is not based on any real assessment. The project will require several times more land for the canals and will have related social and environmental impacts which have not even been assessed. The claim by WAPCOS that most of the water conveyance system is underground is far from adequate since an assessment of land requirement should still have been done and a lot of land would still be required at the end of water conveyance system.

No Command Area Development Plan The EIA report (May 2013) mentions CAD in two sections: Section 2.8 and 10.9. However, perusal of both sections show that neither have full description of Command Area De-

velopment Plan or adverse Impacts of the project in the Command Area including drainage, health, biodiversity and other issues.

The CAD later submitted makes some shocking statements. e.g. It says: "GCA of the project is 928680 ha..." with an extra "0".

The CAD further says: "Maximum height of the spillway above the ground will be 47.90 m (measured from river bed level to top of the spillway bridge). Maximum height of spillway from expected foundation level will be 47.90 m." This means that there is no foundation of the dam below the riverbed level!

Section 2.9 of CAD says: "The groundwater development is of the order of 6.9% to 8.7% in the command area blocks." In reality, as the table 2-3 shows, the groundwater draft is 69 to 89%.

The CAD should start with clear statement of how much of the proposed Command area is already irrigated. This is not even mentioned.

No Downstream Impact Assessment The EIA report has not done any downstream impact assessment, including the impact on biodiversity, livelihoods, draw down agriculture, water security, groundwater recharge, geo-morphological impacts, among others. The response of WAPCOS in Oct 2013 that Newaj is a monsoon fed river and hence there are no downstream impacts is completely inadequate and shows the lack of understanding of functions of the river on the part of WAPCOS.

Impact of project on National Chambal Sanctuary The project will have significant impact on water, silt and nutrient flow pattern into the Chambal River, the approximate 600 km of which has been declared as National Chambal Sanctuary between 1979-1983 across three states of Madhya Pradesh, Rajasthan and Uttar Pradesh. However, the EIA does not even mention that the National Chambal Sanctuary exists down stream of the proposed project and will be impacted by the project. According to section 29 of the Wildlife Protection Act of 1972, any project that affects flow of water into or out of the protected area should be assessed for its impact on such sanctuary and necessary clearances be taken from the designated authorities including Chief Wildlife Wardens and National Wild Life Board. However, WAPCOS does not even seem aware of the existence of the sanctuary.

Another point to note is that the entire water availability in the NCS is dependent on the KaliSindh and Parbati since there is no discharge below the Kota Barrage. The response from WAPCOS (Oct 2013) that the Mohanpura catchment is about 200 km from the river and that it is just 2.5% of the Chambal catchment and hence will not have any impact is clearly untenable.

The area has rainfall of 972 mm and there are a lot of options for local water systems. As is clear from the public hearing report, several farmers suggested that in stead of one big dam a series of smaller dams should be built and that farmers will have to commit suicide if the dam is built. The response in the EIA is most callous that this is not technically feasible is not even backed by any evidence, which again shows the shoddy nature of the EIA.

Impact of mining of materials for the project not mentioned The EIA has some assessment of material required to be mined for the project at Table 2.7, but where will these materials come from and what will be the impacts of this is not even mentioned.

No proper Options Assessment The EIA does not do proper options assessment to arrive at the conclusion that the proposed project is the most optimum proposal. The area has rainfall of 972 mm and there are a lot of options for local water systems. As is clear from the public hearing report, several farmers suggested that in stead of one big dam a series of smaller dams should be built and that farmers will have to commit suicide if the dam is built. The response in the EIA is most callous that this is not technically feasible is not even backed by any evidence, which again shows the shoddy nature of the EIA.

The claim that the project is justified for fluoride affected area is completely misleading since if that was the concern than much smaller dam and large number of rain water harvesting structures would better serve the purpose.

Public hearing in the office of the DM? Chapter 17 of the EIA says, "Public Hearing for Mohanpura Multi-purpose Major Project was conducted by Madhya Pradesh State Pollution Control Board on 11th March 2013 in the premises of the office of the District Magistrate, Rajgarh". This is most shocking state of affairs. The Public hearing as per the EIA notification is supposed to be conducted at the project site and cannot be conducted in the office of the District Magistrate. The MoEF should have applied its mind on just this aspect and rejected the proposal and asked them to get the public hearing done in legal way. The public hearing report is also incomplete with several sentences not being complete.

Issue of Conflict of Interest for WAPCOS It may be noted that WAPCOS is a Ministry of Water Resources organization, and has been in the business of doing pre-feasibility, feasibility reports and Detailed Project Reports, which are necessary for the justification of the

projects. This is part of the business of the organization. Such an organization has clear conflict of interest in doing an honest EIA since an honest EIA can lead to a possible answer that the project is not viable. Hence EAC should recommend that the WAPCOS should be debarred from doing any EIAs or CIAs (Cumulative Impact Assessments).

CUMULATIVE IMPACT ASSESSMENT A very large number of dams and other water use projects have been constructed, are under construction and under sanction in the Chambal River Basin. A Cumulative Impact Assessment (CIA) and carrying capacity study for the Chambal Basin should be done before any more projects are considered in the basin. This is also required as per the MoEF Office Memorandum (J-11013/1/2013-IA-1 dated May 28, 2013) that required states to initiate CIA in all basins within three months, that is by Aug 28, 2013.

Other Issues Besides the above, a large number of issues remain unresolved.

- The area to be inundated by dam break needs to be listed and shown on map.
- EAC had asked: "Details of drainage network planning be included in the report."
- Tarun Nair of Gharial Conservation Alliance has written to the EAC on how the EIA has indulged in plagiarism.

CONCLUSION

In view of the above, we urge EAC to:

1. Reject the proposal for environmental clearance. Proposal with such EIA cannot be cleared.
2. Reject the EIA, as explained above this is most shoddy EIA.
3. Reject the Public hearing; the public hearing has not been conducted as legally required. The public hearing also needs to be conducted again since the EIA is found to be so seriously inadequate and needs to be redone. In any case, with so many additions and changes to the EIA, the public hearing clearly needs to be redone.
4. Suggest black listing of WAPCOS as EIA and CIA agency. It is high time for EAC to send a signal that such shoddy EIA would not be accepted and is in violation of law.

SANDRP

Bansujara Multipurpose project in Dhasan basin in Madhya Pradesh

ANOTHER SHODDY EIA BY WAPCOS

The EIA of the Bansujara Multipurpose Project (BMP) dated May 2013 by WAPCOS has been submitted for Environment Clearance of the project before the Expert Appraisal Committee on River Valley Projects, in Nov 2013. WAPCOS is known to do very shoddy job of Environment Impact Assessments, this one is no different. In what follows I have given a few instances of wrong facts, contradictory facts, wrong calculations or assumptions, incomplete assessments, instances that shows it is cut and paste job and lack of options assessment by the 564 page EIA document. The conclusion is inescapable that the EAC and MoEF must reject this EIA and recommend black listing and other measures against WAPCOS. The project should be asked to get a fresh EIA done by a credible agency.

In what follows I have given a few instances of wrong facts, contradictory facts, wrong calculations or assumptions, incomplete assessments, instances that shows it is cut and paste job and lack of options assessment by the 564 page EIA document. The conclusion is inescapable that this EIA by WAPCOS should be rejected.

WRONG FACTS The EIA provides several completely wrong facts, here are a few instances:

1. **River description** On p 1-1 the EIA says: "The Bansujara Dam Project lies in Dhasan sub-basin of Betwa basin, River Betwa is a tributary of Yamuna river, rises in district Bhopal district at an elevation of 472 m. After traversing a length of 365 km, it joins Yamuna River in Uttar Pradesh. The river runs for nearly 240 km in Madhya Pradesh, 54 km along common border of Madhya Pradesh and Uttar Pradesh and 71 Km in Uttar Pradesh state before its confluence with Yamuna river near Hamirpur town in Hamirpur district of Uttar Pradesh." This is actually the description of River Dhasan and not Betwa! It is exactly same as the description of river Dhasan given on the next page and several other places subsequently.
2. **Land required for Canals** In Table 2.3 it is stated that canals will require 44 ha land, this is clearly gross under-estimate considering even 49.9 km of main canal and other canals.
3. **Private land required for project** The SIA says on page 1-2, "About 935.11 ha of culturable area, 57.49 ha of forest land and 4209.118 ha of other land

including road, nallah, river, etc. will be affected." This is clearly wrong figure. On page 1-3/4 of SIA it is stated: "About 2935.11 ha of revenue/government land and 2894.37 ha of private land is to be acquired." This again is wrong.

As the MoEF factsheet for the Forest clearance for the project says, "Apart from the 57,495 hectares of forest land proposed to be diverted, the project involves submergence of 287.951 hectares of government land and 4,856.276 hectares of private land." Thus the suggestion by the SIA that only 935.11 ha of culturable land is going under submergence is clearly wrong since most of the private land is under cultivation in these villages.

4. **How many families will be affected** The MoEF Factsheet for the project says: "The project involves submergence of 21 villages. 2628 houses, 773 wells, 5082 trees, and 2628 families with population of 13,142 are getting affected due to submergence." These figures are at variance with the figures mentioned in the EIA. For example, the SIA (p 1-4, repeated on page 4-1) says: "Over all 748 families of 9 Abadi Villages will be affected". This when the project will be taking away 2628 houses as per the Fact sheet, is clearly grossly wrong reporting of figures. Because of use of wrong figures, their R&R plan and R&R costs are also all wrong and gross under estimates. Moreover, now the R&R plan and costs should be as per the new Land Acquisition Act Passed by the Parliament, which has not been done in the EIA-SIA. As per the new Act, land has to be provided to each losing farmer, and this must be followed.
5. **Completely impossible figures of crop yields** A look at table 4.3 of SIA (repeated in table 7.1 of CADP) shows that the consultants have given crop yields before project (e.g. paddy 7 t/ha, wheat 18 t/ha, groundnut 10 t/ha and gram 10 t/ha) which are much higher than the average of even Punjab crop yields and they are expecting to double that post project! These are clearly impossible figures. This shows that the consultants are plain bluffing and seem to have no clue about possible crop yields and in any case do not seem to have done any surveys, but are only cooking up data. Amazingly, they are claiming that with 211% increase in crop yield, the profits from crops will go up by 318%, without credible basis! All this simply shows the manipulations they are indulging in to show the project is economically viable.



CONTRADICTORY FACTS

- Main canal length** Page 2-2 says main canal length is 90 km, the salient features on next page says Main canal length is 49.9 km.
- Command area Tehsils and villages** Section 10.2 of EIA (and again section 2.7 of the CADP) says: "The Command area of the proposed Bansujara Major Irrigation project lies within the district Tikamgarh in Jatur and Baldeogarh tehsil" and then goes on to give details of these tehsils, but the rest of the document (e.g. section 6.1) says: "A total of 124 villages are likely to be benefitted by the project. 80 villages are located in Tehsil Khargapur of district Tikamgarh. About 13 villages are located in tehsil Jatura of district Tikamgarh. The remaining (31) villages are located in tehsil Palera of Chattarpur district." Chapter 6 in fact provides full list of 124 villages in the command area. The subsequent details of the command area given in chapter 10 thus do not match with what is given say in chapter 6.
- Submergence villages** Table 11.3 of EIA gives list of Project affected families, which is at variance with the list given in tables 10.8-10.14. Firstly, chapter 10 tables say that 14 villages of Tikamgarh Tehsil are affected, but table 11.3 lists only 13 villages. Tables in chapter 10 say 6 villages of Bada Malhera tehsil of Chhatarpur district are affected, whereas the name of this tehsil given in chapter 11 is Bijwar.
- Storage Capacity** Page 11-10 says: "The storage capacity of Bansujara Reservoir is 539.42 Mm³." This is clearly wrong, the figures for gross and live storage capacity given in salient features and elsewhere are: 313.1 MCM and 272.789 MCM respectively.
- Water Availability** As per Table 5.8, water availability at the project site from MP catchment (2788 sq km) alone is 843 MCM. Strangely, this reduces to 588.68 MCM in table 11.6 for whole of catchment (3331.776 sq km) at dam site. No explanation is given for these figures.
- Submergence area** While most of the document gives submergence area as 5201.71 ha. However, in section 2.7 of EMP, it says, "The submergence area of Bansujara Irrigation Project is 7476 ha."

Contradicting this, page 1-4 of SIA says: "The Bansujara Multipurpose Project will benefit almost 132 villages in districts Tikamgarh and Chattarpur."

Amazingly, the SIA says Palera tehsil is in Tikamgarh district and not in Chattarpur district and that additional ten villages of Badamalhera tehsil of Chattarpur district will also be in command area!

3. **Submergence villages** Table 11.3 of EIA gives list of Project affected families, which is at variance with the list given in tables 10.8-10.14. Firstly, chapter 10 tables say that 14 villages of Tikamgarh Tehsil are affected, but table 11.3 lists only

WRONG CALCULATIONS/ ASSUMPTIONS

1. **Field channel length grossly underestimated**
The p 6-6 of EIA says: "The Bansujara Dam Project envisages irrigation over a CCA of 54000 ha. In the areas where irrigation is proposed no field drainage, land shaping of field channels exist and used to be constructed. From general experience and existing practice, it is assessed that a length of 1600 m of field channels will be required to serve a chak of 40 ha of CCA. On this basis, an approximate network of total length of 180 km of field channels will be required for 50% of CCA proposed for irrigation." Simple calculation suggests that the field channel length for 50% of CCA would be 1080 km (54000 ha / 40 ha per 1.6 km divided by 2 for 50% CCA) and not 180 km.
2. **Drainage requirement under estimated** Section 6.9 (p 6-7) of EIA says, "The command area is being traversed by a large number of nallahs and drains, therefore field drainage should not pose any problem." This is clearly wrong assumption since additional irrigation will certainly require additional drainage and cost calculations based on such flawed assumptions are bound to be wrong.
3. **Baseless assumption about waterlogging** Similarly about the assumption in section 6.13 (p 6-8): "Even after construction of Bansujara Dam Project the area will not face any waterlogging problem."
4. **Wrong claims about no floods** The conclusion about flood and back water impacts is completely unfounded in section 6.14 (p 6-8): "As per information gathered from the Collectorate Tikamgarh there is no village affected due to back-water of Dhasan and Ur rivers. The existing drainage system in the command is adequate. The statistics gathered from collectorate Tikamgarh show that there is no flood affected area. The command has fairly good flood disposal capacity and not special measures are called for." This when the Maximum water level of the dam is full 1.4 m above the FRL, the back water level is found to be high. This is also particularly relevant in flood prone basin like Betwa.
5. **Drainage characteristics of clayey soils ignored** The assumption in section 7.1 (p 7-1) shows complete lack of understanding on the part of EIA consultants: "The area is sloping gently and near its outfall into Betwa river, the slope is of the order of 0% to 3%. It is traversed by small drainage channels at short distances and they help in draining excess water efficiently. Hence, no provision for drainage has been made. The soil is generally clayey." It is well known that clayey soils are inefficiently draining soils and to make such assumption for clayey soils is clearly wrong.

6. **Unrealistic assumption of irrigation efficiency**
System irrigation efficiency of 54% assumed in Table 11.10 is clearly wrong, no project in India has achieved such high efficiency. The water loss will surely be much higher than the assumption of 105 MCM on page 11-14. The conclusion on that page that: "The quantum of water not being utilized is quite small and is not expected to cause any significant problem of waterlogging" is clearly wrong and baseless, since water logging also depends on many other factors including drainage, soil structure, underground geology, among other factors.
7. **No industries, but 19.4 MCM for industries!** The CADP (page 5-7) clearly states: "At present there is no industrial requirement in the area." And yet the project allocates 19.4 MCM water for industries. This again shows that the project is being pushed even though there is no need for it.

INCOMPLETE ASSESSMENT

1. **Assessment of dependence on fisheries incomplete** It is not clear what is the area from which fisheries assessment done as reported in section 9.11.6. How many people depend on fish, what is the production market and economy of the same is also not reported.
2. **Hydrology figures without basis** Chapter 11 (Table 11.6) assumes that "For use on u/s of Bansujara dam for environmental and ecological balance and Misc. uses by surface water" is 10 MCM and "Quantity of water reserve for d/s release for environmental and ecological balance" is 15.18 MCM and that groundwater available upstream of dam site will be 58.86 MCM (10% of surface water). No basis is given for any of these and all these (and many other) figures given in the water balance are clearly ad hoc, unfounded assumptions. The groundwater availability is typically 40% of total water availability, so around 67% of surface water availability. Why should it be 10% in case of the Dhasan basin is not explained and in any case does not seem plausible.

However, in Table 2.2 of EMP, the environment flow suggested in monsoon months is 12.8 cumecs. This would mean that the project would need to release 132 MCM of water in four monsoon months as environment flows, when they have assumed in hydrology that only 15.18 MCM water is required for this!
3. **Incomplete SIA** SIA says (SIA page 1-7) that it has selected certain of the 21 villages facing submergence due to the project. Actually the SIA should have done full survey of all the villages not a sample of villages.

4. **Impact of loss of river not assessed** It is expected that the SIA will assess the impact of loss of river for the people in submergence and downstream zone, but no such assessment has been done. Even in section 4.4 of SIA on “Impacts of Socio-Cultural Environment”, there is no mention of impact of river (or forest or other natural resources) on the people.
5. **Full Canal details not given** The EIA or CADP report does not provide the full lengths of main canals, distributaries, minors, field channels and field drains, including their width, land requirements, protection measures like canal side plantations etc. Without these basic details, the EIA or the CADP cannot be considered complete.
6. **Command area coinciding with command area of Ken Betwa Link canal and other such projects?** A perusal of the Command area of the Ken Betwa River Link Project (TOR approved by EAC in its 45th meeting in Dec 2010) shows that all the three Tehsils (namely Baldeogarh or Khargapur in Tikamgarh district, Jatara Tehsil in Tikamgarh district and Palera Tehsil in Chhattapur district) are also benefiting from Ken Betwa Link Canal. A look at the map of the command area of Ken Betwa link canal and that of the Bansujara shows that some areas are certainly common. The EIA of Bansujara should have pointed this out and also if the proposed command area is to benefit from any other such projects, but it has not done that.

INTER STATE IMPACTS IGNORED The Dhasan river downstream from the dam moves to Uttar Pradesh, but there is no mention of the impacts of this project in the downstream state, nor if both state agree to this project.

CUT AND PASTE JOB? Several parts of EIA raises the suspicion that they are cut and paste from other documents. This suspicion is proved correct when we see this sentence in Table 12.2 in Disaster Management Plan (Chapter 12 of EMP): “All staff from dam site, power house & TRC outlets alerted to move to safer places”, since the Bansujara project has no power house or TRC (Tail Race Channel). The consultants forgot to remove these irrelevant aspects while doing the cut and paste job¹, it seems. This is just by way of illustration.

Similarly, the title of the section 2.6 of the Command Area Development Plan says it all: “**2.6 FOREST TYPES IN THE MOHANPURA PROJECT AREA**”. Here again it is clear that while doing cut and paste from another EIA, the consultants forgot to change the details! There is also the sentence “Tehsil Shajapur has

maximum population density of 238 persons per sq.km. (2001 Census data)” on page 2-6 of CADP, but there is no mention of any such Tehsil in the Bansujara Project area!

NO OPTIONS ASSESSMENT The EIA does not contain any options assessment. In fact section 10.2.4 shows that 19174 ha of the 48157 ha of cropped area in the command is already irrigated. This means a substantial 40% of the command area is already irrigated.

On page 3-5 of SIA it is mentioned that out of 318 land holding respondents in the SIA survey (in submergence villages), only 4 had unirrigated land. This shows that land of 99% of respondents is already irrigated.

The area has average rainfall of around 1100 mm and thus more area can get irrigated with better use of this rainfall and such a huge dam with such huge submergence (5202 ha) and land requirement (5887 ha, gross underestimate considering that land for canals are not properly assessed), displacement of over 25000 people (at least and that too only from submergence area) and other impacts is not the best option.

Very shockingly, the report does not mention what are the levels and trends of groundwater in the catchment and command of the project. When Groundwater is India's mainstay for all water requirements, not to give this full picture of groundwater makes the report fundamentally incomplete.

CONCLUSION

What is listed above is not an exhaustive list. Nor are these some typographical errors, but these show serious incompetence, callousness and worse. The conclusion is inescapable that the EAC and MoEF must reject this EIA and recommend black listing and other measures against WAPCOS. The project should be asked to get a fresh EIA done by a credible agency. The EAC in the past have failed to apply its mind about such shoddy EIAs even when this was shown to EAC through such submissions. Most recent such case is that of the Mohanpura Irrigation Project in MP, in which case too the EIA was done by WAPCOS. It is hoped that EAC will apply its mind to this issue and make appropriate recommendations.

SANDRP

1 Seems like this has been cut and paste from the EMP for the Kangtangshri HEP in Arunchal Pradesh also done by WAPCOS, see: <http://apspcb.org.in/pdf/23072013/EMP%20Report-Kangtangshiri.pdf>

World Fisheries Day 2013

Community Fish Sanctuaries protect the fish and their rivers

21st November is marked as World Fisheries Day. In India, a day celebrating and recognising fisheries should hold special significance as over 14 million people depend on fisheries for livelihood and nutritional security. More than 75% out of these depend on riverine fisheries. But riverine fish diversity and livelihoods related to fishing in rivers and associated systems have been the most neglected and abused sectors by responsible government departments: from Ministry of Agriculture's Department of Animal Husbandry and Dairying to Ministry of Environment and Forests.

At the same time, rare and endangered fish diversity is being protected by communities across the country through innovative means. One such concept is the community fish sanctuaries which protect the rivers as well as the endangered Mahseer fish and associated species through community sanctions and conservation. An account of some such sanctuaries across the country is given here.



Kal River at Walen Kondh. Photo: Author

Maharashtra: Walen Kondh Sanctuary, Kal Nadi, Mahad, District Raigad A small bus load of pilgrims descended at Walen Kondh and bought the usual *Prasad* from a shack by the river. They crossed a suspension bridge over a deep gorge of Kal Nadi and went to the derelict temple of Vardayini Mata on the other bank.

Then a few girls among them did something unusual. Instead of offering the *Prasad* at the temple, they came to the ridge of the gorge and clapped a few times, peering into the river below. In a matter of seconds, there was frantic thrashing in the waters as a huge school of endangered Mahseer fish congregated swiftly. The devotees then threw in fistfuls of puffed rice to hundreds of Mahseer below. For the devotees, these fish are sacred: the children of Varadayini Mata.

Renole Pujari from Walen Kondh says that they have received no support or protection from the government to conserve Walen Kondh Sanctuary, however the community sanctions are so strong that not only is fishing banned across 2 kilometres from this stretch, but people are not even allowed to get down to the water, near these fish. He only hopes that this stretch of Kal nadi is not destroyed by dams and chemical pollution like the neighbouring Savitri River which flows through the chemical MIDC at Mahad. Fish kills are a regular feature of Savitri River.

Walen Kondh is in the Western Ghats of Maharashtra and is one of the several critical community fish sanctuaries of India that protect the Mahseer fish. These sanctuaries have been successful in conserving not only the fish, but also stretches of rivers through their unique actions which find no support from the establishment and limited recognition from the conservation community.

Deccan Mahseer (*Tor Khudree*) is classified as an endangered species by IUCN[i]. It does not feature in the schedule of species protected under the Wildlife Protection Act (1972) which is not a surprise as the Act represents freshwater diversity very poorly. However, many researchers, fisher folk and anglers have recorded that *Tor Khudree* and associated Mahseer species (*Tor tor*, *Tor putitora*, etc.,) which were once plentiful in rivers across Western Ghats, peninsular and central India, Himalayan Rivers as well as floodplains, has now reduced drastically.

One of the major reasons behind the collapse of fish species like Mahseer is dam construction. Mahseer species migrate in the upstream to smaller streams for spawning (breeding). They need a flood pulse to undertake this migration. While other factors like pollution, overfishing, etc. have contributed to the decline, the multiple impacts of dams in terms of blocking migration paths, reduction of water levels in the downstream, submergence of pools in the upstream, changes in natural hydrograph and flood pulses, changes in sedimentation, etc., have been the primary reasons behind this collapse. (SANDRP's report on Impact of Dams on Fisheries: http://sandrp.in/dams/Impacts_of_Dams_on_Riverine_Fisheries_in_India_ParineetaDandekar_Sept2012.pdf)

Fall of Mahseer has affected the ecology, local livelihoods, angling and recreational fishing in the rivers. While

Hoshangabad on the banks of Narmada recorded 5-6 tonnes of Mahseer landings every year, it has been nearly wiped out from these places now [ii]. Mahseer used to form the majority of catch in these parts and has been severely affected by reservoirs of Tawa, Bargi, Sardar Sarovar and other Narmada projects. However, hardly any efforts are being made to reverse this situation. According to Shashank Ogale, who set up and managed Mahseer hatcheries in Tata Dams for more than 20 years, there are next to none functional Mahseer hatcheries in the country. This is despite the fact that dam proponents show an expense of crores of rupees to set up hatcheries as a part of their Environment Management Plan. After granting clearances, which are also based on these EMPs, MoEF does not bother to monitor the functioning and efficiency of these hatcheries or the impacts of dams on fish diversity and fisheries [iii].

In such a scenario, community conserved fish sanctuaries which are scattered across the country are playing a very important role in conserving various species of Mahseer as well as stretches of rivers. Unfortunately, most of these sanctuaries get no protection by the State Governments, Forest Departments or the Ministry of Environment and Forests. This is at a time when freshwater diversity is declining at the fastest rate globally [iv]. Ministry of Environment and Forests has done precious little in conserving or protecting riverine diversity, fisheries or rivers from the onslaught of dams. These sanctuaries keep getting submerged, dried up or fragmented by newly planned dams and State Fisheries Departments don't bat an eyelid before giving a no-objection certificate (NOC) to projects which will spell doom for these sanctuaries.

In **Maharashtra**, Tilase is one more such small village in Wada Taluka of Thane district which protects Mahseer fish in Vaitarna River. The stretch is downstream of Upper Vaitarna Dam which supplies water to Mumbai. Local youths told me that fish kills occur here when water releases from Upper Vaitarna decrease. Downstream this stretch, Middle Vaitarna Dam has now come up and the sanctuary is now sandwiched between the



Statue of a lady with the Mahseer at fish sanctury in Huma, Orissa Photo: Wikimedia

two projects. Social sanctions here are so strict that a net cannot be put in the waters, even to check the species. Fish Sanctuaries also existed in Alandi and at Pandharpur along the Bhima, but have been wiped out. In Vidarbha, several Dev dohs (Sacred Pools) exist in Rivers like Adan, Kathani, Wainganga, etc., where fishing is banned.

According to Rajendra Kerkar, **Goa** too has community conserved fish sanctuaries protecting the Mahseer at 'Pistyachi Kon', nestled between Bhimgad and Mhadei Sanctuaries. It gets no legal protection.

In **Orissa**, along the Mahanadi on the banks of the leaning temple of Huma exists the Huma Mahseer Sanctuary. On the banks is a stone statue of a lady cutting a Mahseer fish. Legend goes that the one who fishes in this stretch will meet the same fate, like King Midas! Hirakud Dam has already affected this sanctuary and the proposed Lower Suktel Dam will make things worse.

Karnataka possibly has the highest number of community fish sanctuaries in the Western Ghats. Nakur Gaya and Yenekkal fish sanctuaries exist on the banks of Kumardhara in Dakshin Kannada. In Yenekkal, local gram panchayat has built a small weir with wooden gates for maintaining water levels for the fish. The weir is so small that the fish can migrate over it in the monsoons. Both these sanctuaries are threatened by the numerous mini hydel projects coming across the region, especially the 24.75 MW Kukke Mini Hydel Project near Hosmata[vii]. Fisheries Department however has given an NOC to this and many other mini hydels coming across the region without even attempting to study their impacts on Mahseer and other fish.



Child feeding fish at Shringeri Fish Sanctuary on River Tunga Photo: Author

In **Karnataka**, Karappura Fish Sanctuary in Mysore was submerged by the Kabini reservoir while the Shimoga Agrahara Sanctuary collapsed due to dwindling water levels which after the construction of Tunga Anicut 12 kilometers upstream from here.

200 MW Gundia Hydel project will also affect the entire hydrograph of Kumaradhara-Gundia Rivers here. The EIA done by KPCL (Karnataka Power Corp Ltd) says that there are no rare and endangered fish in the area. 5 new fish have been discovered in the region just in the past one year!

Uttarakhand and Himachal Pradesh too have temple fish sanctuaries, notably the Baijanath Temple complex on the banks on River Gomti in Uttarakhand conserves Golden Mahseer (*Tor putitora*) and supports a small fish sanctuary on its banks. Many isolated fish sanctuaries are also reported from the Ramganaga and Kosi area near Corbett. However, it is also reported that now these sites are used by anglers and the temples receive revenue in return. In Jogindernagar, a town in Mandi district of Himachal Pradesh, lies a lake known as Machchiyal, fed by River Uhl. This lake is supposed to be the abode of Machendru Devta, the Fish God. Fish are fed and worshipped here regularly and fishing is strictly prohibited in the lake. Machchiyal supports a large population of the Himalayan Mahseer. There is a Temple of Machendru Devta on the lake bank with ancient idols of fish-god.

In the remote Tawang in **Arunachal Pradesh** in the North East corner of India flows a beautiful river Nyamjangchu. Buddhist Monpas revere the river as well as the fish in Nyamjangchu. Fish in the Nyamjangchu are not hunted. The river is threatened by the proposed 780 MW Nyamjangchu Hydel project which will divert or submerge nearly the entire length of this river flowing through India. Even premier research institutes like CIFRI (Central Inland Fisheries Research Institute) have done a shoddy study and supported the project and have not raised the issue of impact of this dam on fish diversity.[ix]

On the occasion of World Fisheries Day 2013, we urge to the MoEF to document the existing sanctuaries and grant immediate protection to all the existing fish sanctuaries in the country, protecting them from the onslaught of dams and other pressures. We had sent a similar submission to the MoEF which was endorsed by several Fisheries Scientists and activists across the country in 2012, we've received no response from the MoEF on it till date (http://sandrp.in/rivers/MoEF_EAC_Submission_Fisheries_Nov2012.pdf, http://sandrp.in/rivers/World_Fisheries_Day_PR_Nov2012.pdf).

These sanctuaries stand testimony to the fact that community conservation is one of the most sustainable and effective ways of protecting ecosystems. The sanctuaries and their keepers deserve respect and recognition.

Parineeta Dandekar
(parineeta.dandekar@gmail.com)

References:

1. http://www.ces.iisc.ernet.in/biodiversity/sahyadri_eneews/newsletter/issue11/hotspot/fish/
2. <http://www.internationalrivers.org/resources/india%E2%80%99s-community-fish-sanctuaries-protect-wild-fish-and-rivers-1641>
3. <http://www.indiawaterportal.org/articles/temple-fish-sanctuaries-last-bastions-native-fish-and-pristine-river-stretches-report>
- [i] <http://www.iucnredlist.org/details/169609/0>
- [ii] <http://www.fao.org/docrep/014/y4642e/y4642e.pdf>
http://articles.timesofindia.indiatimes.com/2012-11-11/bhopal/35049539_1_mahseer-bio-diversity-board-narmada-river
- [iii] http://sandrp.in/dams/Impacts_of_Dams_on_Riverine_Fisheries_in_India_ParineetaDandekar_Sept2012.pdf
- [iv] <http://www.unep.org/maweb/documents/document.358.aspx.pdf>
- [vi] <http://www.downtoearth.org.in/content/mahad-loses-river-crops>
- [vii] <http://www.thehindu.com/todays-paper/tp-opinion/neither-small-nor-green/article5046979.ece> http://cdm.unfccc.int/filestorage/V/K/Z/VKZN42CKEOIAC01RSS7ROKJWE62UKB/Comment%20submitted%20by%20Parineeta%20Dandekar.pdf?t=ekt8bXdscGNtfdA_9RYgT_7uCVrm9x21GYPr
- [viii] Shyama Bhat Kolari, Development and management of Freshwater Fish Sanctuaries in India, 2005
- [ix] http://www.greenpeace.org/india/en/Blog/Community_blogs1/how-much-water-does-a-river-need/blog/45532/
http://sandrp.in/Nyamjungchuhep_nov2013_forupload.pdf

Maharashtra ignores riverine fisheries The Fisheries Development Officer told SANDRP that they only look at reservoir fisheries and not rivers. Considerable population depends on riverine and estuarine fisheries in Maharashtra. Only in case of some rivers like Panchaganga, Warna and Godavari are fishing rights given for riverine fisheries, that too because it is the vestige of colonial era. The riverine fisher folk should get fishing rights from the fisheries departments. Currently, fisher folk are not even considered as project affected when dams destroy rivers and displace these communities. Most of the fisher folk in Maharashtra, like elsewhere in the country, belong to tribal communities and are already marginalised and vulnerable. It is high time that riverine fisheries are recognised for their livelihood aspects. (<http://sandrp.wordpress.com/2013/10/09/who-cares-for-riverine-fisheries-in-maharashtra/>)

E-flows in India – groping in darkness

Multiple agencies, but where are the flows? At least 69 hydro power projects are in various stages of development in Alaknanda - Bhagirathi sub basins of the Ganga (as per IMG records). Four different e-flow regimes based on different approaches have been put forward by the four different agencies. While AHEC (Alternate Hydro Electricity Centre) has used Mean Annual Flows (MAF), WII (Wildlife Institute of India) has resorted to Mean Seasonal Runoff (MSR) for different seasons based on the needs of the fishes. CWC (Central Water Commission) has resorted to ad-hoc e flows of 20 % of daily flows. IMG (Inter-Ministerial Group) has come out with its own recommendation of percentage of daily inflows for different seasons going upto 50 % for winter season from December – March where winter flows are very low.

We have so many different types of e-flows assessments being tried out. It is becoming increasingly evident that 'rivers' do not figure anywhere in the entire e flows discourse and assessments going on at Government level in India.

While admitting that Building Block Methodology (BBM) is the most comprehensive holistic methodology, IMG report claims (without basis) that since it is time consuming and since it has not been tried out in any large river basin, interim e-flows recommendations be done so that hydro power development is not held up for want of environmental decisions. Mind you, this is the case with all the rivers where hydro power projects are being planned. While many of the project developers and EIA agencies claim that they follow BBM methodology, it is evident that none of these fulfill the requirements of a comprehensive BBM methodology. So who cares about the rivers here?

NIH workshop on Oct 2-3, 2013 without MoEF! The National Workshop on Environmental flows organized by the National Institute of Hydrology (NIH), Roorkee along with UK based Centre for Ecology and Hydrology (CEH) during 2-3 Oct 2013 only reinforced my conviction that what is going on in the name of e flows assessment is indeed not for any goodwill for the rivers. The workshop was conspicuous by the absence of MoEF officials whose main mandate is protecting river ecosystems and life in rivers. Were they not invited or did they decide not to participate? It was mostly dominated by technical persons and organisations who believe that rivers are for the exploitation by humans alone mostly through mega projects. The workshop agenda was set on the oft repeated dictum that e flows should be inte-

The dam builders like the NHPC, Uttaranchal Jal Vidyut Nigam Ltd. and Tehri Hydro Power Corporation claimed that they are actually releasing more water than they are 'asked to'! This is indeed ridiculous. Even what they are 'asked to' release does not amount to e-flows and is not based on any comprehensive assessment or community validation! And there is clear evidence that they are not releasing even that (e.g. NHPC's Teesta V or Tehri).

grated into water resources development, without any will for such integration.

E-flows are for rivers In India e flows is just a formality to fulfill the requirements of the environmental clearance process. Ironically, resource persons from countries outside India with ample experience on e flows assessment pointed out that the intention was to find ways to 'limit' or mitigate the impacts of development. If the agenda had been set with the intention that e flows should be part of river conservation and not just to fulfill the development agenda then we would have some hope for rivers.

Developers don't want any e-flows Project developers are clearly unhappy with even the meager allocation in the name of e flows. The dam builders like the NHPC, Uttaranchal Jal Vidyut Nigam Ltd. and Tehri Hydro Power Corporation claimed that they are actually releasing more water than they are 'asked to'! This is indeed ridiculous. Even what they are 'asked to' release does not amount to e-flows and is not based on any comprehensive assessment or community validation! And there is clear evidence that they are not releasing even that (e.g. NHPC's Teesta V or Tehri). Then where does the question of reducing e-flows allocation below dams arise? They even went to the extent of recommending that in those rivers where tributaries join the dry stretch below the dam, can't e flows allocation be reduced and can't the tributary contribution added as e flows? Can't e flow releases be used for power generation by installing dam toe power houses? For them e flows is mere 'cumecs' (Cubic meters per second) of water to be released and nor do they understand that each tributary and the main stem of the river have their own ecological niches & functions; and social and cultural dependencies which are linked to the flows in each of these.

The presentations made by NIH Roorkee, CIFRI (Central Inland Fisheries Research Institute), GBPIHED (GP

Pant Institute of Himalayan Environment and Development) and AHEC for proposed hydro power projects in the Himalayas and the North East India revealed that none of the studies had carried out consultations with river dependent communities and did not follow the BBM principles either.

CIFRI-NIH's flawed assessment of Teesta IV HEP e-flows Teesta IV HEP proposed in Sikkim is presently under the scanner since many groups have raised the genuine concern with the MoEF (Ministry of Environment and Forests), EAC (Expert Appraisal Committee), FAC (Forest Advisory Committee) and the NBWL (National Board of Wild Life) that if implemented it would mean the death of the last free flowing stretch of the main Teesta river. The ToR (Terms of Reference) of the study commissioned by MoEF says, *"An estimation to be made for environmental flows downstream for **sustenance of aquatic environment and for downstream uses**, considering details of streams joining the river below the proposed dam site with their approximate distance from the dam site, their nature (whether perennial or seasonal) etc. A detailed environmental flows study shall be carried out through the premier institutions such as Central Inland Fisheries Research Institute (CIFRI), Barrackpore and National Institute of Hydrology (NIH), Roorkee for **biological and hydrological** components"*.

The consultants took just 7.5 km length of the river from dam axis to the existing downstream project Teesta V which is immediately downstream. The study carried out in 2009- 2010 period has prescribed **a minimum discharge of 10 cumecs (Cubic Meters per second) from the dam during the lean period and 40 cumecs for wet season for aquatic life is also prescribed**. The ToR has two objectives namely e flows for the sustenance of aquatic environment and for downstream uses, but the sampling parameters in the presentation does not reflect the fulfillment of these objectives.

Since the Teesta V is already commissioned, the impact below the dammed and flow regulated stretch of Teesta V on the aquatic environment and downstream uses would have given useful comparisons. The study seems to have ignored the e flows for downstream uses of communities even in the 7.5 km stretch. The study though claimed to have used the BBM methodology, it is doubtful if all the relevant building blocks have been considered. The study carried out in 2009-10 does not seem to

be uploaded in public domain to date.

E-flows for all projects do not make sense? Most shockingly, the chief consultant for the Ganga River Basin Management Plan now being formulated by a consortium of IITs (Indian Institutes of Technology) Dr Vinod Tare was of the opinion that all projects to release e flows does not make sense. He said it is important to seek balance and generate power as well.

Now this is problematic. Let us face it that in Indian conditions we are working on e-flows under data and information deficient conditions. We are still far away from understanding a river system in its complexity along with its basin characters, eco- hydrological interactions and land use changes.

Lack of Eco-hydrological understanding Even NIH engineers and other experts agreed during discussions

Another missing element from e-flows at the NIH workshop that is bothersome was the lack of interest by the experts and the various authorized institutions in allocating e flows below already dammed rivers. They say it will be a tough job and would not be possible politically. However, ultimately e-flows is a social and political choice with trade offs and negotiations inbuilt into it.

that we lack reliable hydrological data and have absolutely very little ecological data base on our rivers to arrive at proper recommendations for e-flows. MoEF and NGRBA (National Ganga River Basin Authority) has meanwhile accepted BBM methodology (as in the NGRBA Report; Code - 022_GBP_IIT_EFL_SOA_01_Ver 1_Dec 2011) as the most

robust assessment approach to e-flows and they also say it needs to be worked upon.

The report says, 'The BBM methodology is found to be robust with high confidence level. However, specific flow recommendations are difficult to justify at this stage, and will have to be worked out afresh. The major uncertainties centered on the hydrological and hydraulic models due to lack of availability of reliable data'. In BBM all blocks are equally important as they interact with each other. Against such a scenario, Dr Tare needs to think twice before making such statements! They can be used by dam developers to lobby for reduced or even no flows.

What about e-flows from existing dams? Another missing element from e-flows at the NIH workshop that is bothersome was the lack of interest by the experts and the various authorized institutions in allocating e flows below already dammed rivers. They say it will be a tough job and would not be possible politically. However, ultimately e-flows is a social and political choice with trade offs and negotiations inbuilt into it. Does that imply that we can leave heavily dam ravaged rivers like the Mahanadi, Krishna, Cauvery, Narmada, Tapi, Sabarmati, Godavari, Teesta, Sutlej, Ravi, Beas, Chenab,

Periyar and the like to die without allowing them at least their long overdue minimum flows leave alone e flows? It is high time the Government took interest and started engagement and studies in arriving at and allocating e flows below dammed rivers.

Future challenges After two days of debate and disagreements, I came out of the workshop with the following thoughts at the top of my mind.

Several institutions in this country with expertise in ecology and hydrology and with necessary infrastructure who could have made efforts to put in place comprehensive e-flows assessment process are working for dam developers and serving as experts in EIA studies giving green signals to ill conceived hydro electric projects and dams based on inadequate e-flows recommendations. The level of dilution of science and ethics this can lead to is mind-boggling and with disastrous consequences for our rivers. For example e-flows and minimum environmental flows are being used as synonyms by many institutions including CWC. An interesting and dangerous recommendation from CWC at the workshop is; 'If feasible, a separate storage of water in the upper reaches of a river basin maybe created for environmental needs which will help in augmenting flows during lean season and satisfy the e-flows demands particularly for Himalayan rivers'. So in future all river basins with dam cascades could be recommended with e-flows reservoirs!

What about compliance, MoEF? While e-flows have become mandatory for hydro power projects in this country, it is surprising and shocking that MoEF is yet to ensure compliance and to take up comprehensive and

Some of the gaps and challenges in e flows assessment in Indian context include: lack of reliable data, lack of understanding of eco- hydrological linkages, river aquifer interactions, pollution related aspects (how to quantify and relate to flow releases), e-flow releases for flood plains, lack of resource allocation, lack of valuation of ecosystem services and societal – cultural value of rivers, multiple institutions working against each other's interests (MoWR vs MoEF), Peaking induced flashiness, scientific and acceptable ways to compute e-flows and lastly but most importantly, effective implementation and monitoring.

fundamental assessment of e-flows in sample river basins on its own which is its primary mandate. It is high time MoEF develops a ToR for e-flows from its conception to implementation to monitoring. E-flows assessment presently being carried out lacks proper objectives and mostly excludes communities from its purview or assessment. There is vagueness about what constitutes downstream in e-flows assessment. Even for the e flows assessment carried out in River Ganga for the NGRBA has there been any effort to imple-

ment the same? Has the MoEF ever tried to seek inputs on e flows from outside the government organisations or from the several groups working tirelessly for conservation of rivers?

Will NIH exercise have credibility? NIH in collaboration with many institutions proposes to take up sample river basins in India and put in place eco hydrological models for e flows. The absence of MoEF and members of the Expert Appraisal Committee on River Valley Projects at this workshop organized by a MoWR institution speaks for itself how e-flows will be realized if the mandatory ministry does not take a pro active role.

Experts from other countries pointed out that rather than numbers it is better to have distribution ranges for e flows under Indian conditions with complex dependencies. They also made an important comment that uncertainty and risk factors never get integrated into our e-flows estimations. In India land use changes are also not accounted in e-flows calculations. We have a very long way to go.

Latha Anantha (latha.anantha9@gmail.com)

MEF Expert Committee after SC order of Aug 13, 2013: Needs full mandate & trimming down The MEF has constituted an expert committee through its order dated Oct 15, 2013. The constitution of the committee under the chairpersonship of Ravi Chopra is welcome, with the inclusion of some independent and expert members. At the same time, the committee is unwieldy with excessive inclusion of government members and members with conflict of interest. It also has no women on the committee. All this raises doubts if the committee will be allowed to function in an independent way. The committee has not been given the full mandate as required by the Supreme Court order. Why is the mandate of the committee limited to Alaknanda Bhagirathi? That leaves out a huge area of Uttarakhand that also suffered damages, including Ganga, Yamuna and Kali-Gori basins. The SC order was applicable to the entire Uttarakhand State. The first meeting of the committee happened on Nov 15, but their agenda or minutes are not in public domain. (<http://sandrp.wordpress.com/2013/10/20/expert-committee-following-sc-order-of-13-aug-13-on-uttarakhand-needs-full-mandate-and-trimming-down/>)

27th Dharati Jatan Annual Festival to honour the eco-warriors:

A different COP that actually addresses climate change

It was certainly a Conference of Party (COP) of sorts¹. Those present included farmers, women, academics, media persons, delegates from other states (Gujarat, Madhya Pradesh, Uttar Pradesh, Delhi), Non Government Organisations and elected representatives. It also happens to be an annual event that has been going on for 27 years. It was celebrating the work that actually helped mitigation and adaptation in changing climate in both drought and flood related possibilities. It was also happening on the same dates as the COP 19 was going on far away in Warsaw, Poland.

It was an honour for me to be present at Nagar village in Malpura block in Tonk district in Rajasthan at the 27th annual Dharati Ratan conference where the *Pad Yatras* from two different streams that culminated. Five eco warriors were honoured at this meeting with a certificate, silver medal, shawl and other ceremonial gifts. They were being honoured for their work related to tree plantation, soil and water conservation and protection of grazing land.

As speakers at the conference on November 16, 2013 narrated, this annual festival is a remarkable achievement by the Gram Vikas Nav Yuvak Mandal at Laporiya in Dudu block in Jaipur district, led by Laxman Singh, now famous for his grazing land protection through the unique chauka system.

Experience of the marchers Rameshbhai Saini, leader of the first stream that marched through the 15 villages of Dudu block (Jaipur district) mentioned the

difficulties people are facing. For example, he mentioned how Phulsagar, one of the tanks in Laporiya is encroached and communities' efforts to remove the encroachment did not succeed as the encroacher had the support of the Rajasthan minister Babulal Nagaur who is also the member of the Legislative assembly from the local area.

Ramjilalji, the leader of the second stream that walked through Malpura block villages (Tonk district) starting from Sindolia village, also said that encroachments on tanks are increasing under political support and when volunteers try to remove such encroachments to save the water bodies, they are faced with court cases. He also said that the state government is laying long distance pipelines and building cement containers to bring the water from mega dam Bisalpur to the villages in the area. He very pertinently asked, will we allow our water harvesting culture to be destroyed since now we have this piped water supply? Reflecting unconvincingly on this dilemma, the letter from state government's principle secretary Purushottam Agarwal (he was supposed to come for the function, but had to travel elsewhere and hence sent a letter) suggested that the pipelines are only for drinking water and tanks that the GVNML has helped build are for irrigation and other purposes. The fact is that the state government made no effort to consult the people before coming up with the pipeline scheme. Kesarbhai, active in Mahoba district in Uttar Pradesh described the *Apna Talab Abhiyaan* through which already 70 talabs (tanks built with earthen bunds) have been built in less than a year.



The Yatra prepares for the worship of the Nagar village tank

1 For details see: <http://sandrp.wordpress.com/2013/11/18/dharati-ratan-annual-festival/>

Participants from other states Pankaj Shrivastava from Mahoba appreciated that communities in GVNML area have system of imposing fines when anyone is caught polluting the lakes. He also said that the communities in their area are trying to clean up Kiratsagar lake in Mahoba through a focused campaign since Oct 5, 2013. Mavjibhai from Vivekanand Research & Training Institute, Bhuj (Kutch in Gujarat) said that they plan to take up implementation of *chauka* system in 55 villages along the 60 km long Rukmawati River in their area.

The Awards The five awards presented on this occasion were indeed very well deserved ones.

- The managing committee of Akodiya village (Dist Ajmer) was recognised for the tradition of collective management of common property resources including grazing land and water harvesting systems.
- Rajjak Sheikh of village Tikel (Block Dudu in Jaipur district) was honoured for planting long living trees like peepal, Banyan, neem and other local varieties along the tank embankment over the last five years through his own efforts. He also got the fisheries contract given for the village tank canceled and got some of the hunters caught at his own personal risk.
- Shraavanlal Jaat, a shepherd of village Kalyanpura (Dudu, Jaipur) was given the Dhudhad Ratan prize for consistently planting large number of trees in grazing land and along the village tank with his own personal effort and expenses for more than five years and also taking care of the planted trees.
- Efforts of Umrao Godha, a relatively rich man of village Jhirota in Ajmer district were recognised for transforming the village with institutions like school, health centre and also for planting and taking care of large number of villages. Enthused villagers elected him as village head.
- Khivsingh Rajput, an old man of Bikhraaniya Kalan village from relatively far off Nagaur district

(Marwad area) was honoured for his 20 year old campaign in the village to plant long living Banyan and other trees in very dry area. He also inspired people to donate money and collected Rs 5 lakhs to deepen, renovate and strengthen the village tank.

Relevance for climate change The work of GVNML in the region is remarkable in many respects. The water conservation work helps recharge the groundwater and this water is then available in years of deficit rainfall, the frequency of which is bound to increase in warming climate. Similarly, the whole area has created such a remarkable water conservation system that even when rainfall is excessive, this area will not face any floods since the water will be stored and only slowly released. The soil here has increased carbon content which also helps hold the moisture much longer, thus helping overcome the dry spells which has also increased in recent years. Thus it is clear that what is underway over the

As the COP 19 talks at Warsaw remained deadlocked, waiting for some façade to emerge to show progress, this different COP 27 at Nagar shows so much progress is possible when the communities are at the helm of the affairs. It is doubtful though that the lessons from COP 27 at Nagar will have any impact on COP 19 at far away Warsaw.

last over three decades under GVNML has huge implications in the climate change context. As the COP 19 talks at Warsaw remained deadlocked, waiting for some façade to emerge to show progress, this different COP 27 at Nagar shows so much progress is possible when the communities are at the helm of the affairs. It is doubtful though that the lessons from COP 27 at Nagar will have any impact on COP 19 at far away Warsaw.

Himanshu Thakkar (ht.sandrp@gmail.com)

New Publication: Yamuna Manifesto *The Yamuna Manifesto* (Text by Manoj Misra and Himanshu Thakkar & edited by Ravi Agarwal and Till Krause) has just been published. It grew out of *Project Y* – a public art and outreach project initiated by the Ministry of Culture, Hamburg, and carried out in the framework of *Germany and India 2011-2012: Infinite Opportunities*. Centred on the idea of creating ecological and sustainable rivers in cities, the project was held almost simultaneously in the cities of Delhi and Hamburg between October and November 2011. Earlier in December 2010, a multi disciplinary seminar held in New Delhi, had conceptually initiated the project. This book is an outcome of some of the ideas, which emerged. A bilingual (Hindi and English) publication, combining the views of activists and artists, blurring boundaries between fact and the imaginary, it is an attempt to widen ideas around ecology, to re-territorialize it, and to move beyond binary narratives of catastrophe and untouched nature, to one of multidimensional reframings. For copies, write to ht.sandrp@gmail.com, yamunajiye@gmail.com or ravig64@gmail.com. For details, see: http://www.yamuna-elbe.de/index.php?title=Yamuna_Manifesto_en.

Kasturirangan Report – a blueprint for political polarization in Kerala?

Possibly for the first time in the history of Kerala, a *hartal* led by the unlikely combination of a powerful section of the Church and the Left Democratic Front has rejected both the Western Ghats Panel Report (WGEEP) and the High Level Working Group Report (HLWG) claiming it as anti farmer¹. On November 18, 2013, the LDF and its supporters called for a state wide bandh which brought normal life to a standstill. Thousands of protestors took to streets, mainly from Idukki and Wayanad Districts. Events that are unfolding in Kerala hold significance for the entire country. Firstly it reveals the extent to which forces are trying to decide the fate of a common natural heritage like the Western Ghats through short sighted political means. Secondly it reveals the lack of democratic process by which the people of a region as diverse and ecologically significant as the Western Ghats are not taken into confidence by the Governments while introducing a new governance process.

ernments while introducing a new governance process. Thirdly the Western Ghats and the two reports on it has become the oven hot political weapon in an election year for Kerala.

Events in Kerala hold significance for the entire country. Firstly it reveals the extent to which forces are trying to decide the fate of a common natural heritage like the Western Ghats through short sighted political means. Secondly it reveals the lack of democratic process by which the people of a region as diverse and ecologically significant as the Western Ghats are not taken into confidence by the Governments while introducing a new governance process.

buses were set fire by the angry mob in several places in North Kerala². The High Range Protection Council led by the Roman Catholic Church organised a 48-hour road blockade under the banner 'occupy the streets' at

Kattapana the district headquarters in Idukki district on 18-19th November. In fact the Wayanad MP Sri M. I Shanawas called on Mrs Sonia Gandhi in New Delhi along with Bishop Remigius Inchananiyel of Tharamassary Diocese, patron of the resistance group spearheading the campaign in north Kerala, to convey the anxieties of the people.³ Not a day has passed since 14th November, 2013 when the discussions over the two reports have not taken over the prime time news hour in the television channels of Kerala. The debate continues.

Why the hue and cry?

The MoEF directions and the subsequent Office Memorandum (OM) dated 16th November both reiterate that the MoEF has accepted the



Closed shops in Wayanad during strike (Photo: Deccan Chronicle)

of a region as diverse and ecologically significant as the Western Ghats are not taken into confidence by the Gov-

the subsequent Office Memorandum (OM) dated 16th November both reiterate that the MoEF has accepted the

1 Originally published at: <http://sandrp.wordpress.com/2013/11/22/kasturirangan-report-a-blueprint-for-political-polarization-in-kerala/>

2 <http://www.thehindu.com/news/national/central-direction-on-western-ghats-report-sparks-protest-in-kerala/article5354418.ece>

3 Read more at: <http://indiatoday.intoday.in/story/western-ghats-kasturirangan-report-oommen-chandy-kerala-cm-protests-kozhikode/1/325158.html>

Presently, the sand mining and quarrying lobby hold the largest political clout in Kerala with many political leaders and legislators alleged to be having direct share and ownership over the large granite quarries operating in the heart of the Western Ghats districts. More and more farmers in the mountains are selling their land to quarry contractors. Now this is something which can become difficult if the restrictions are imposed.

High Level Working Group report on Western Ghats, headed by Dr. Kasturirangan 'in principle'. It also explicitly means that the MoEF has rejected the Western Ghats Expert Ecology Panel Report under the chairpersonship of Prof. Madhav Gadgil, though the OM makes absolutely no mention of the WGEEP Report!

At least 123 villages in Kerala will fall within the ESA (natural landscape). The category of development activities banned in the ESAs are restricted to mining, quarrying and sand mining, thermal power plants, red category industries, building and construction projects of 20,000 sq.m and above.

The watered down HLWG report and the OM does not contain any clause which would force the farmers of

By this time a large section of population including the ruling party legislators in Kerala openly admit that the Kasturirangan panel report is a watered down version of the Gadgil panel report and is not going to bring in much changes. Meanwhile, the clause (viii-d) on banning township and area development projects with an area of 50 ha and above and / or with a built up area of 150 000 sq.m. shockingly reveals further dilution.

Idukki and Wayanad districts out of their land as alleged by the agitators. Clearly farmers would not resort to hooliganism of the kind which was perpetuated in Kozhikode and Kannur. Presently, the sand mining and quarrying lobby hold the largest political clout in Kerala with many political leaders and legislators alleged to be having direct share and ownership over the large granite quarries operating in the heart of the Western Ghats districts. More and more farmers in the mountains are selling their land to quarry contractors. Now this is something which can become difficult if the restrictions

are imposed. As somebody was remarking in a bus my friend was traveling in, 'if mining stops, the JCBs will have to be sold at the price of scrap metal, that is the issue'!

By this time a large section of population including the ruling party legislators in Kerala openly admit that the Kasturirangan panel report is a watered down version of the Gadgil panel report and is not going to bring in much changes in status quo conservation. Meanwhile, the clause (viii - d) on banning township and area development projects with an area of 50 ha and above and / or with a built up area of 1, 50 000 sq.m. shockingly reveals further dilution. The MoEF has gone against the 'in principle' acceptance by inserting this recommendation which was not included in both the reports! HLWG report has categorically stated that no more new townships and settlement areas will be allowed in the Western Ghats. This new insertion by the MoEF opens up the space for mining and quarrying in the name of township development within ESA areas diluting the concept and spirit of ESA. Meanwhile many ecologically sensitive areas have been left out of the HLWG report which will be opened up for mining and other development.

Baseless rumours are being spread over how the report will affect the high range population! Allegations are now reaching ridiculous levels include, 'The hidden agenda is to convert all the ESAs into forest area in a stage by stage manner; tiger cubs are being introduced into the forest to evict the people; no more new houses will be allowed once the ESAs are declared; no more monoculture plantations in the Western Ghats; all houses in ESAs have to be painted green and lights have to be switched off by 8 pm; so on and so forth are the interpretations led by the church and the political fronts. The people living in the plains are being warned that they will have to bear the onslaught when lakhs of evicted farmers from the high ranges will settle in the plains! To top it all, the revenue department officials are warning people against land registration or land transfer citing that until further directions are given, no land transaction can be carried out in ESA villages!

There are attempts to show that Ecologically Fragile Lands Act EFL Act (2005) and ESA are the same. The EFL Act is a state Act to provide for the vesting in the Government of ecologically fragile lands in the State of Kerala and for the management of such lands with a view to maintain ecological balance and conserving the bio-diversity. Ecologically fragile land denotes any forest land or any portion thereof held by any person and lying contiguous to or encircled by a reserved forest or a forest or any other forest land owned by the government and predominantly supporting natural vegetation. This Act allows the Government to vest such a land from

the owner and make it part of the Reserve Forest. It also gives power to the government to evict any person occupying the notified land. The ESA meanwhile comes under the purview of the central EPA Act 1986. It does not entail any eviction or vesting of land by the government or the Forest Department. There is no eviction of farmers entailed in either the WGEEP or the HLWG report. Any news about evictions is politically motivated and baseless.

The concerns and anxieties of the local communities who have made the mountains their home since three generations when a new regulation is being ushered in cannot be ruled out. The distressing state of the Western Ghats calls for stringent protection measures as well. ESA under the EPA (1986) is the best option available wherein conservation can be ensured without displacing people. Meanwhile the other states seem not too perturbed by the decision of the MoEF to accept the Kasturirangan Report. The high population density in Kerala Western Ghats plus the vested interests of the quarrying lobby and the church (which holds large tracts of land in the mountains) could be attributed as the reason for this uproar.

What was the need to constitute the HLWG by the MoEF? New ideas and governance mechanism takes time to sink in the public mind and the development sectors that are used to work in silos. The MoEF bowed to the pressure from different lobbies and went ahead with the new panel without giving time to the state governments or the people to understand the WGEEP report. And not surprisingly the HLWG panel digressed from its ToR and came out with a status quo report. Hence the pro Athirappilly project lobby is happy with the HLWG report.

Reparative Measures The Government of Kerala has meanwhile taken a guarded stance with respect to the Kasturirangan report instead of totally rejecting it. They have assured the people no decisions will be taken in haste. However, the GoK reacted late by stating that they will translate the notification when it is out and hold discussions in each of the ESA panchayaths. In response to the first OM issued on 19th October, 2013 (which was surprisingly cancelled by the MoEF and replaced by the OM on 16th November, 2013), the Kerala Government constituted a three member expert com-

mittee headed by the Kerala State Biodiversity Board (KSBB) Chairman to seek opinions from farmers' organisations, environmentalists and people's representatives from the regions that will be affected once the Kasturirangan report is implemented. The state also plans to circulate the HLWG report's Malayalam version to all the 123 villages⁴. Round the clock help lines have been opened by the Kerala Forest Research Institute (KFRI) and KSBB to clarify the doubts of the public. Chief Minister Oommen Chandy has decided to convene an all party meeting to seek opinion from the various political units of the state. The Kerala Pradesh Congress Committee (KPCC) has also constituted a five member committee to seek opinions through district level hearings.⁵

Lapses in democratic processes come with a cost. If the Government had taken the pains to interpret the WGEEP report way back in 2011 when it was published and undergo the above processes, so much politically created antagonism towards the WGEEP report, the destruction of public property and loss of 900 crores to the public exchequer by an uncalled for bandh could have been avoided. The LDF too could have organized discussions and debates on the two reports instead of rejecting both the reports.

Consciousness for the Western Ghats is growing

What was the need to constitute the HLWG by the MoEF? New ideas and governance mechanism takes time to sink in the public mind and the development sectors that are used to work in silos. The MoEF bowed to the pressure from different lobbies and went ahead with the new panel without giving time to the state governments or the people to understand the WGEEP report. And not surprisingly the HLWG panel digressed from its ToR and came out with a status quo report. Hence the pro Athirappilly project lobby is happy with the HLWG report. While the WGEEP report had totally rejected the Athirappilly project, the HLWG has given space to the Government to reevaluate the project and take it up with the MoEF if needed.

Is the Western Ghats Ecology Expert Report (WGEEP) sent for a burial? The MoEF seems to have done so. But many in Kerala where the maximum opposition to both the reports came in, think otherwise. The dots are growing into a network of likeminded groups and individu-

4 <http://newindianexpress.com/states/kerala/State-govt-constitutes-new-panel-to-study-Kasturirangan-report/2013/10/24/article1852681.ece>

5 <http://www.mathrubhumi.com/english/story.php?id=141644>

als who believe the Gadgil report should be accepted and not the HLWG. There is increasing realization that the WGEEP report has mooted a completely new system of governance based on ecological limits and carrying capacity of a region, democratic decentralization and a futuristic perspective of intergenerational equity. While

Meanwhile the other states seem not too perturbed by the decision of the MoEF to accept the Kasturirangan Report. The high population density in Kerala Western Ghats plus the vested interests of the quarrying lobby and the church (which holds large tracts of land in the mountains) could be attributed as the reason for this uproar.

recommending sanctions and regulations, the process is intrinsically democratic where discussions and decisions about the wise use of natural resources have to be made by the local communities. Not surprisingly even the media discussions start with the HLWG report and end up supporting the WGEEP report! There is still scope

The rest of the Western Ghats states need to take cue from the happenings in Kerala and start a process of democratic discussion with the ESA village communities and different development sectors to avoid future problems that may crop up. The conflicts and riots have reinforced the conviction that it is time to start a peoples' movement once again to save the Western Ghats!

for the public to demand with the MoEF that the WGEEP report be implemented after correcting the grey areas. The rest of the Western Ghats states need to take cue from the happenings in Kerala and start a process of democratic discussion with the ESA village communities and different development sectors to avoid future problems that may crop up. The conflicts and riots have reinforced the conviction that it is time to start a peoples' movement once again to save the Western Ghats!

Latha Anantha
(latha.anantha9@gmail.com)

Gujarat building Garudeshwar weir, Statue of Unity without clearances More than 20 concerned Gujarat citizens have written to the Union Ministry of Environment and Forests and Gujarat state Environment Impact



Assessment Authority that Gujarat is building Garudeshwar dam and statue of unity without necessary social and environment impact assessments and necessary clearances. The work on a project that proposes to build the world's largest statue in the form of 'Statue of Unity' near Sardar Sarovar Dam in the river downstream from the dam, just 3.2 km from the Shoolpaneshwar Sanctuary, in eco-sensitive zone and involving massive infrastructure has started also without any public consultation process. This is clearly illegal, in violation of the Environment Protection Act, 1986 and EIA notification of September 2006 and a number of NGT and Court orders about such massive kind of construction on the riverbed.

On 31 October 2013, the foundation stone was laid for the project amidst huge fanfare and media attention. Tenders have also been floated. Even the work for the Garudeshwar weir, proposed about 12 km downstream of the Sardar Sarovar Dam, began without any social or environmental impact assessment, public consultation and environmental clearance from the Environmental Sub Group (ESG) of Narmada Control Authority's (NCA). The consent of other states that are party to the interstate Narmada Water Disputes Tribunal is also required for the Garundeshwar weir and Statue of Unity project, but none has been initiated.

The estimated cost of the project is more than Rs. 2,500/- crores (Rs 2063 crores is the cost of Statue of Unity as per tender notice, see: <http://www.statueofunity.in/tendernotice.html>). The Project involves construction in the river bed and proposed reservoir, close to sanctuary in eco-sensitive zone, and hence will have serious impacts on the ecology and environment. Hence, and EIA and EC is crucial. The project will affect the downstream river, its biodiversity, people and livelihoods and other related aspects. In view of this, the letters demand that the work on the Garudeshwar weir and Statue of Unity should be stopped till all these requirements are fulfilled. The 12 km long Garudeshwar weir will have huge social and environmental impacts, but these have not been assessed or management plans prepared. When some tribal and Gujarat activists planned peaceful protests against such work, they were arrested or put under house arrest. (<http://sandrp.wordpress.com/2013/11/10/gujarat-is-taking-up-massive-project-in-ecosensitive-zone-in-the-middle-of-the-river-without-impact-assessments-or-legally-mandatory-clearances/>)

Affected communities, scientists, experts urge the MoEF & MNRE:

“Address Impacts of Small Hydel Projects”

47 experts and organisations from across the country have written to the Ministry of Environment and Forests, including the Minister Ms. Jayathi Natarajan to include hydel projects between 1-25 MW under the purview of EIA Notification 2006. A similar letter has been sent to the Ministry of New and Renewable Energy and Minister Dr. Farooq Abdulla, to address the impacts of these projects which are governed by the MNRE. Those who have written include eminent personalities like Former Water Resources Secretary: Dr. Ramaswamy Iyer, Former Secretary of Power and Principle Advisor to Planning Commission: Dr. EAS Sarma, Former Ambassador of India: Ms. Madhu Bhaduri, Former member of MoEF's Forest Advisory Committee: Dr. Ullas Karanth, Head of IISC's Centre for Ecological Sciences: Dr. TV Ramachandran, Head of People's Science Institute: Dr. Ravi Chopra, experts from energy field, as well as activists, fisheries experts, scientists and importantly, representatives from affected communities¹.

We want to record our concern about serious impacts of small hydro projects on communities and ecosystems. Several groups from us have written to you in the past to urgently amend the EIA Notification 2006 and to include Small Hydel Projects in its ambit. Looking at the serious impacts of these projects, MoEF should have suo motto taken this initiative. But that has not happened, despite several amendments in the EIA Notification down the years.

SHPs can have and are having severe impacts on communities and ecosystems. This is significant as SHPs are exempt from environmental impact assessment, public hearing, and environmental management plan as EIA Notification 2006 restricts itself to projects above 25 MW.

To highlight some of the impacts of SHPs:

- **70 SHPs in Karnataka under scanner following HC orders** Within days from publishing of MNRE's report², Karnataka High Court upheld El-

ephant Task Force's recommendation about impacts of SHPs on Elephant habitats and directed Karnataka Government to review clearances of all such projects affecting elephant habitats³, bringing at least 70 SHPs under scanner, 40 in Hassan district, the rest in Mandya, Chamarajanagar and Uttara Kannada districts.

- **Karnataka HC no to SHPs in W Ghats** In Feb 2013, the Karnataka High Court banned SHPs in Western Ghats⁴, following a petition filed by Western Ghats Forum.
- **Uttarakhand** Uttarakhand had earlier cancelled as many as 56 SHPs due to irregularities.
- **Western Ghats reports** Considering the impacts of small hydro projects, the Madhav Gadgil Panel on Western Ghats recommended that in Ecologically sensitive zone 1, only projects below 10 MW with max height of 3 m and not involving forest land be taken up. In ESZ 2, projects upto 25 MW can be taken up only if dam height is below 15 m. This shows the nuanced approach that is required for small hydro projects. The panel also recommended that WGEA should **include small hydro projects under EIA notification**. Even the Kasturirangan committee has recommended that hydropower projects, including SHPs be allowed only on condition that 30% eflows are released, less than 50% of the river length is destroyed and there is 3 km free flowing river between projects. It has also recommended that hydropower projects, including small hydro projects should require environment clearance in the Ecologically Sensitive Area.
- **Bhagirathi ESA** Even in the notified Bhagirathi ESA in Uttarakhand, the MoEF has implied that Hydro projects only of below 2 MW installed capacity can be taken up.
- **BWSSB asks for stoppage of SHPs** In March 2013, Bangalore Water Supply and Sanitation Board asked the Karnataka Power Corp Ltd to stop power generation from four mini hydel projects on Cauvery River as it was affecting drinking water supply to Bangalore.⁵

Most Small Hydro projects (1-25 MW) are grid connected,

1 For a full list see: <http://sandrp.wordpress.com/2013/11/11/address-impacts-of-small-hydel-projects/>

2 “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” Sept 2013, <http://mnre.gov.in/file-manager/UserFiles/report-on-developmental-impacts-of-RE.pdf>

3 http://articles.timesofindia.indiatimes.com/2013-10-10/bangalore/42899588_1_mini-hydel-projects-karnataka-elephant-task-force-ketf

4 <http://www.dnaindia.com/bangalore/report-karnataka-high-court-rules-out-any-more-projects-in-the-western-ghats-1805572>

5 <http://sandrp.wordpress.com/2013/03/16/impact-of-62-mini-hydel-projects-on-cauvery-on-bangalores-water-supply/>

and local communities do not get electricity from the projects in their backyards, across their rivers which have significant impacts on local water availability, biodiversity, livelihoods, habitats and submergence.

Some examples in this regard are given here.

- In Himachal, communities have protested strongly against 4.5 MW Hul project affecting drinking water security and irrigation of 6 villages, as well as ancient oak forests.
- Projects like 24.75 Kukke I in Dakshin Kannada can submerge a massive 388 hectares, including extremely bio-diverse forests, plantations and houses. This is being strongly opposed by local communities.
- Greenko's Perla and Shemburi Projects, Basavanna and Mauneshwara SHPs in Karnataka are examples where two 24.75 MW SHPs are fraudulently shown as separate projects, but are single projects with a common dam. In the latter case, villagers assumed that the power canal is actually an irrigation canal for their fields. They only realised that they were alienated from their river after they were banished from approaching the canals.
- Maruthi Gen projects, also in Karnataka, were not only clubbed together, but also hid their significant impact on forest land.
- Submergence data of SHPs is routinely hidden & affected communities are kept in dark till water actually floods their lands. 24.75 MW Thangarabalu SHP on Krishna in Karnataka entails a dam of more than 22 meters in height, but has not divulged any data of submergence to villagers or Forest Department.
- 3 MW Beedalli MHP in Karnataka is on the boundary of the Pushpagiri Sanctuary and will severely affect wildlife, but does not envisage eflows release, fish passage or environmental mitigation measures.
- 15 MW Barapole MHP in Kerala is affecting reserve forests in Karnataka. An earlier such project which was affecting Brahmagiri Sanctuary was opposed and cancelled due to pressure from conservation groups in Karnataka.
- String of more than 98 mini hydel projects in various stages of operation, commissioning, construction and planning on the Cauvery in Karnataka has affected elephant corridors and movement.
- Many mini hydel projects along the Cauvery in Karnataka are adjoining the Cauvery Wildlife Sanctuary, violating the 10 km buffer zone, while also encroaching on forest land.

MoEF and NCDMA: National CDM Authority is under the MoEF and has been giving Host Country Approvals to CDM applications of hundreds of small hydel projects without any credible, transparent, participatory or accountable process and without any due diligence. Many of us have been writing to you, providing clear evidence of the sham in CDM applications of projects and their validation reports. But the MoEF has never taken a notice of this. In fact, the MoEF certifies that these projects have positive impact on sustainable development without checking the ground situation, when the impacts of these projects on sustainable development are negative.

- In Himachal Pradesh, several hydel projects have been built on streams that are on 'negative list for hydel projects'. Fisheries department wanted in-situ conservation of fish in these streams.
- The 15 MW Om Power project near Palampur in Himachal Pradesh has caused extensive loss of forest cover and has disrupted irrigation and drinking water supply to downstream areas due to indiscriminate muck dumping.
- The 1.5 MW Pakhnoj Nala Power project would impact the flourishing apple economy of 19 villages in Kullu District of Himachal Pradesh by disrupting irrigation supplies. The local people have been strongly opposing the project and the matter is pending in the court.

World over, it is being recognised that impact of small hydel projects is in fact comparable with large hydro projects and hence has to be assessed and mitigated.⁶ Countries like Vietnam have cancelled 338 small hydel projects as their assessment indicated that environmental and social impacts of these projects is not commensurate with their benefits.⁷

We would be willing to present the problems from the ground to the MoEF. Only a scientific, democratic and truly sustainable approach can help the cause renewable energy development in our country. **We hope MoEF will amend the EIA Notification to this effect urgently. Till such a credible regulatory system is in place, we request the MoEF to stop providing Host Country Approvals to Small Hydel Projects.**

SANDRP

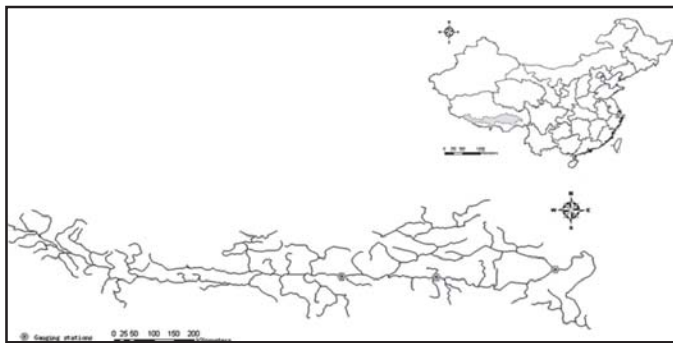
6 <http://www.buildinggreen.com/auth/article.cfm/2013/9/3/Small-Hydro-Projects-in-China-Garner-Big-Impacts/> <http://www.scidev.net/global/water/opinion/small-hydro-could-add-up-to-big-damage-1.html>

7 <http://english.vietnamnet.vn/fms/environment/77849/hydro-power-projects-dead-in-the-water.html>

India-China Water Information Agreement:

Media Hype Vs Reality

It was pretty surprising to see the front page headline in *The Times of India* on Oct 24, 2013¹, claiming that an India China “MoU on Dams Among Nine Deals Signed”. *The Hindu* headline² (p 12) claimed, “China will be more transparent on trans-border river projects”. *Indian Express* story³ (on page 1-2) claimed, “The recognition of lower riparian rights is a unique gesture, because China has refused to put this down on paper with any other neighbouring country”. It should be added that the news stories on this subject in the *Economic Times* and the *Hindustan Times* were took the MoU in more matter of fact way.



Three stations on Yarlung Zangbo - Nugesha, Yangcun and Nuxia (the green spots in the map represent these station)⁴

Additional information for second half of May
However, the actual language of the Memorandum of Understanding on “strengthening cooperation on trans-border rivers” available on website of Press Information Bureau⁵ and Ministry of External affairs⁶ gives a very different picture. There is no mention of dams, river projects or lower riparian or rights there. One additional feature of the agreement is that the current hydrological data (Water Level, Discharge and Rainfall) in respect of three stations, namely, Nugesha, Yangcun and Nuxia located on river Yaluzangbu/Brahmaputra from 1st June to 15th October every year⁷ will now be extended to May 15th to Oct 15th with effect from 2014. While this is certainly a step forward since the monsoon in North East India sets in May and also in view of the accelerated melting of glaciers in changing climate, it should not lead to the kind of hype some of the newspapers created around the river information MoU. More-

over, it should be remembered that India pays for the information that it gets from China and what Indian government does with that information is not even known since it is not even available in public domain. How this information is thus used is a big state secret!

Over-Optimistic reading of the MoU? The specific feature of the new MoU about which media seemed excited read as follows: “The two sides agreed to further strengthen cooperation on trans-border rivers, cooperate through the existing Expert Level Mechanism (for detailed chronology of ELM formation, meetings and earlier MoUs on Sutlej and Brahmaputra, see annexure below) on provision of flood-season hydrological data and emergency management, and exchange views on other issues of mutual interest.” The key words of this fifth the last clause of the MoU were seen as “exchange views on other issues of mutual interest”, providing India an opportunity to raise concerns about the Chinese hydropower projects and dams on shared rivers. However, the clause only talks about exchange of views and there is no compulsion for China to share its views, leave aside share information about the Chinese projects in advance or otherwise. On the face of it, the hype from this clause misplaced.

This was read with first clause: “The two sides recognized that trans-border rivers and related natural resources and the environment are assets of immense value to the socio-economic development of all riparian countries.” Here “riparian countries” clearly includes lower riparian. But to suggest that this clause on its own or read with clause 5 mentioned above provides hope that China will include the concerns of the lower riparian in Chinese projects on shared rivers seems slightly stretched. The clause only recognises the asset value of rivers and related natural resources and environment for all basin countries and it is doubtful if it can be used to interpret that Chinese will or should take care of the concerns of lower riparian.

Thus the rather optimistic interpretation does not seem to emanate from the actual wording of the MoU, but the rather over optimistic interpretation by the Indian interlocutors, possibly including the Indian ambassador to China, who has been quoted on this aspect.

1 <http://timesofindia.indiatimes.com/india/India-China-seal-border-pact-talk-Pak-based-terror/articleshow/24619614.cms>

2 <http://www.thehindu.com/todays-paper/tp-national/china-will-be-more-transparent-on-transborder-river-projects/article5266620.ece>

3 <http://www.indianexpress.com/news/india-china-deals-on-rivers-and-roads-border-and-trade/1186523/>

4 Source: http://ecohydro.pl/files/archieves/2012_2/EH2012-2_93-103_Chen.pdf

5 <http://pib.nic.in/newsite/erelease.aspx>

6 <http://mea.gov.in/bilateral-documents.htm?dtl/22368/Memorandum+of+Understanding+between+the+Ministry+of+Water+Resources+the+Republic+of+India+and+the+Ministry+of+Water+Resources+the+Peoples+Republic+of+China+on+Strengthening+Cooperation+on+Transborder+Rivers>

7 <http://mowr.gov.in/index3.asp?sslid=372&subsublinkid=290&langid=1>

Real Achievement: GOI recognises value of Rivers! What is most interesting though is that Indian government has actually signed a Memorandum that recognises that “rivers and related natural resources and the environment are assets of immense value to the socio-economic development”. This is absolutely amazing and joyful development for rivers. Since there is nothing in the laws, policies, programs, projects and practices of Indian government that says that rivers are of any value. Now that Indian government has actually signed an MoU agreeing to such a value, there is sudden hope for rivers, it seems. Only lurking doubt, though is the word “trans-border” before rivers! We hope the Government of India applies this clause to all rivers, not just trans-border rivers, though we know from past that this hope is one a rather thin ice!!

SANDRP

Annexure:**1. Chronology of Establishment and Meetings of Expert Level Mechanism (ELM) on Trans-border Rivers**

20-23 Nov, 2006	During the visit President of the People's Republic to India in November 20-23, 2006, it was agreed to set up an Expert-Level Mechanism to discuss interaction and cooperation on provision of flood season hydrological data, emergency management and other issues regarding trans-border rivers as agreed between them. Accordingly, the two sides have set up the Joint Expert Level Mechanism on Trans-border Rivers. The Expert Group from Indian side is led by Joint Secretary level officers. Seven meetings of ELM have been held so far.
19-21 Sept, 2007	In the 1 st meeting of ELM the issues related to bilateral cooperation on exchange of hydrological information were discussed.
10-12 April, 2008	In the 2 nd meeting of ELM work regulations of the Expert Level Mechanism were agreed and signed. It was agreed that the Expert Level Mechanism shall meet once every year, alternatively in India and China.
21-25 April, 2009	The 3 rd meeting was focused on helping in understanding of each other's position for smooth transmission of flood season hydrological data.
26-29 April, 2010	In the 4 th meeting the implementation plan on provision of Hydrological information on Yaluzangbu/Brahmaputra River in flood season was signed.
19-22 April, 2011	In the 5 th meeting the Implementation Plan in respect of MoU on Sutlej was signed.
17-20 July, 2012	The 6 th meeting of ELM was held at New Delhi where both the countries reached at several important understandings and a significant one of those understandings is – “The two sides recognized that trans-border rivers and related natural resources and the environment are assets of immense value to the socio-economic development of all riparian countries.”
14-18 May, 2013	In the 7 th meeting held in at Beijing, China where in the draft MoU and Implementation Plan on Brahmaputra river was finalized.

2. MoU on Hydrological Data Sharing on River Brahmaputra / Yaluzangbu

2002	Government of India and China signed an MoU for provision of Hydrological information on Yaluzangbu/Brahmaputra River in flood season by China to India. In accordance with the provisions contained in the MoU, the Chinese side provided hydrological information (Water Level, Discharge and Rainfall) in respect of three stations, namely, Nugesha, Yangcun and Nuxia located on river Yaluzangbu/Brahmaputra (see the map above) from 1 st June to 15 th October every year, which was utilized in the formulation of flood forecasts by the Central Water Commission. It MoU expired in 2007.
2008	On 5 th June, India signed a new MoU upon Provision of Hydrological information of the Brahmaputra /Yaluzangbu river in flood season by China to India with a validity of five years with China. This was done during the visit of Hon'ble External Affairs Minister of India to Beijing from June 4-7. Under this China has provided the hydrological data of the three stations during the monsoon season of 2010 onwards.
2013	During the visit of Chinese Premier Li Kegang to India the MoU of 2008 has been extended till 5 th June 2018.

3. MoU on Hydrological Data Sharing on River Satluj / Langquin Zangbu

2005	An MoU was signed during the visit of the Chinese Premier to India in April for supply of hydrological information in respect of River Satluj (Langquin Zangbu) in flood season. Chinese side is providing hydrological information in respect of their Tsada station on river Satluj (Langquin Zangbu in Chinese, see the map above).
Aug 2010	In order to supply of flood season hydrological information on River Sutlej a new MoU was agreed in August 2010
Dec 2010	On 16 Dec 2010, during the visit of Hon'ble Prime Minister of China to India a new MoU was signed to provide hydrological information of Sutlej/Langqen Zangbo River in flood season by China to India with a validity of five years.
April 2011	During the 5 th ELM held in April, 2011 an MoU on Sutlej containing the Implementation Plan with technical details of provision of hydrological information, data transmission method and cost settlement etc. was signed in Beijing. The hydrological information during the flood season has been received in terms of the signed implementation plan.

Hydro power projects violating SC order in *greenest state of India*

Deemed as the greenest state in India, the government of Sikkim has drawn flak of the national board of wild-life (NBWL) for blatant violation of the environmental norms and the standing order of the Supreme Court in implementation of several hydro power projects under different stages of construction.

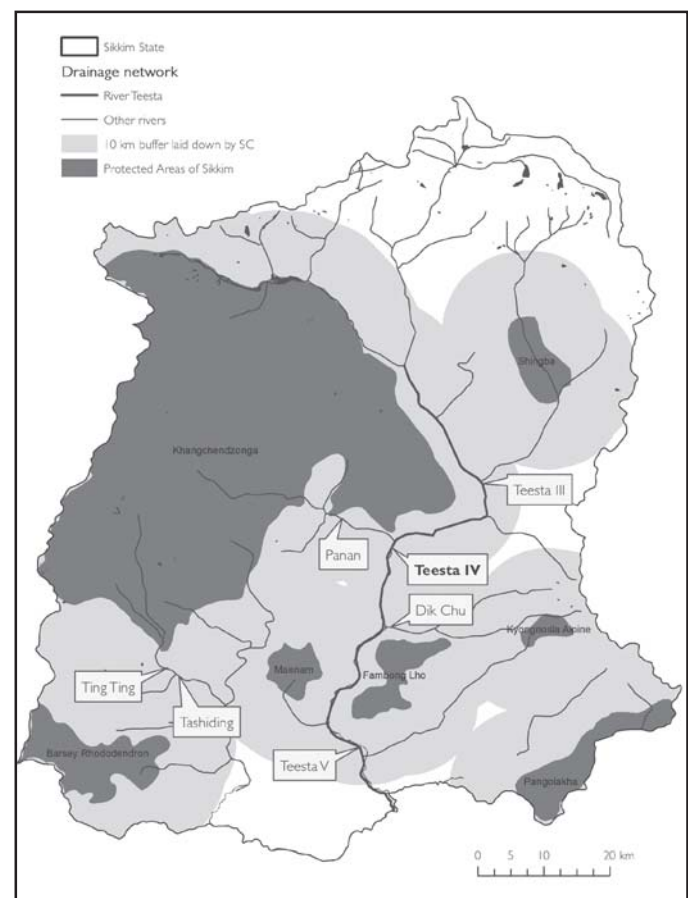
The background In its 28th meeting held on 20th March 2013, the proposal for 520 MW Teesta Stage-IV Hydroelectric Power Project, on River Teesta in North Sikkim to be developed by NHPC Ltd, was placed before the SC-NBWL (Standing Committee-National Board of Wild Life) for consideration. The Member Secretary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



Photo from SC-NBWL committee report has this caption: Construction of the Teesta III project at Chungthang on the edge of Khangchendzonga National Park proceeding without SC-NBWL clearances. Note the extensive forest cover and large landslides at the site.

Following discussions, the SC-NBWL decided that a team comprising Dr M.K.Ranjitsinh, Kishor Rithe, Dr A.J.T Johnsingh and Dr M.D. Madhusudan would carry out site inspection and submit a report to the committee for its consideration. Following this decision, the above committee visited the project site and nearby areas from 15th to 21st May 2013. The committee met the representatives from the Sikkim Government's Forest, Environment and Wildlife Management Department (FEWMD), the user agency, NHPC Ltd, and people from local citizens' groups. The report of the committee dated Aug 2013 is now available online (<http://envfor.nic.in/division/wl-orders>).

The report raises serious concerns about a number of hydropower projects in Sikkim under construction without wildlife clearance in contravention to the Supreme Court order¹ (in the Goa foundation case). The Chamling government in Sikkim has allowed blatant violation of the Supreme Court order, a situation compared by the report with what had happened in Goa with respect to mines which were operating without wildlife clearance in violation of SC orders (the subject of the Shah Commission report). The Union Ministry of Environment and Forests is equally responsible for allowing continued construction of these projects without legally mandatory clearances. The decision based on this report in the NBWL Standing Committee is still pending.



Map with locations of projects and protected areas from the SC-NBWL committee report

Both before and during site inspection, multiple stakeholders brought to the notice of the NBWL team that there were other proposed and ongoing hydel projects in the Teesta Basin located within the eco-sensitive zone

1 WP 406/2004, Goa Foundation vs. Union of India, Order dated 04/12/2006: "The MoEF would also refer to the Standing Committee of the National Board for Wildlife, under Sections 5 (b) and 5 (c) (ii) of the Wild

(as defined by the Supreme Court in the Goa Foundation case), of the Khangchendzonga NP and Fambonglho WLS, which had not obtained the Supreme Court mandated clearance from the Standing Committee of the National Board for Wildlife.

Besides this, the team in their journeys saw two projects under active construction—the Dik Chu² and the Teesta III³—that were clearly within the Supreme Court mandated eco-sensitive area. For Dik Chu HEP, the report says, **“However, the accompanying FEWMD officials informed us that these mandatory wildlife clearances from the SC-NBWL had, apparently, not been obtained.”** For Teesta III HEP, FEWMD officials were not aware of the SC-NBWL clearance, and the committee noted, we “must therefore conclude, on the basis of information available with us, that such a clearance was not obtained... we are deeply concerned about the advisability of this project.”

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

The committee, left with no option was compelled to use publicly available information on Environmental Clearances (EC) (<http://environmentclearance.nic.in>), submissions and information provided by other stakeholders, and to examine minutes from the SC-NBWL’s meetings, to ascertain if there was merit to the allegations made about the violations of the Supreme Court’s order of 12/2006.

Key recommendations Based on examination of available information on legal compliances required for the projects in the Teesta basin, the committee concluded that, with the notable exception of the Teesta IV project (which has currently approached the SC-NBWL for clear-

ance), none of the other projects appear to have sought/obtained this compulsory SC-NBWL clearance, as mandated by the Supreme Court. While the SC-NBWL is fully aware that there are many more proposed/ongoing hydroelectric projects situated within the Supreme Court mandated 10-km eco-sensitive zone of wildlife sanctuaries and national parks in Sikkim, it has not been able to ascertain whether Supreme Court stipulations in their regard are being followed, or being violated, and if latter be the case, the MoEF should take due cognizance of the same urgently.

“We are of the unanimous considered opinion that it is absolutely essential to assess the overall impact of these projects, both from the recent past and those in the pipeline, rather than deal with them in a piecemeal fashion. Hence, we urge the Standing Committee not to consider the Teesta IV project’s request for clearance separately, but treat it as part of a larger set of hydroelectric projects in the Teesta Basin, with vast ecological, social and legal portents”, the committee has recommended.

It further recommend that the Standing Committee direct the MoEF to write to the Government of Sikkim asking them to immediately investigate and submit a detailed report listing hydroelectric projects in Sikkim that are being constructed prima facie in violation of Supreme Court’s order. Based on the list provided by the government of Sikkim, if it is indeed ascertained that the projects are proceeding in violation of the said Supreme Court ruling, it further adds that the MoEF initiate action by asking the State Government to suspend ongoing work on those projects immediately and to direct user agencies to formally seek clearance for these projects from the SC-NBWL. It adds that the MoEF and the Government of Sikkim thoroughly investigate the circumstances under which the seemingly widespread bypassing of Supreme Court orders in the construction of dams within the 10-km ecosensitive zone of Sikkim has taken place, fix responsibility for the transgressions and violations, and punish the guilty.

About Teesta IV proposal from NHPC, for which the committee visited Sikkim, the report recommends, “Finally, in the light of the devastating June 2013 Uttarakhand floods, we are deeply concerned about the wisdom of such large-scale manipulations of mountain river systems that are being implemented, against all reasonable scientific advice (and the disregard of the CISHME’s recommendation against the construction of Teesta III, is a case in point)... Hence, we urge the Stand-

2 Strangely, the Environment clearance letter for the project does not even mention the need for SC-NBWL clearance, see: <http://environmentclearance.nic.in/Auth/openletter.aspx?EC=5766>

3 The Six monthly compliance report for Teesta III dated June 2013 also is quite on the issue of compliance with SC-NBWL clearance, see: http://environmentclearance.nic.in/writereaddata/Compliance/57_Teesta%20HEP-III%20_june2013.pdf, the condition for this was mentioned in the MoEF letter dated 30-04-2010 with additional condition: “Considering the proximity of Khangchendzonga National Park from the project site, clearance from the Standing Committee of the National Board for Wildlife (NBWL) should be obtained”.

ing Committee not to consider the Teesta IV project's request for clearance separately, but treat it as part of a larger set of hydroelectric projects in the Teesta Basin, with vast ecological, social and legal portents."

The report also recommends that projects already in the pipeline and that may be proposed in future in Sikkim, be placed before the Standing Committee, "chaired by a very senior official of the MoEF. Besides senior officials of the MoEF and the Sikkim Government, this committee must include legal experts as well as experts in hydrology/ geology/ seismology/ social science/ botany/ riverine ecology/wildlife ecology, from reputed research institutions and some representatives of local communities" whenever they fall within the purview of the Supreme Court-mandated 10 km eco-sensitive area around PAs. The committee report adds that much of the summary & recommendations section of Justice Shah's report (p 189-200) is extremely relevant to the case of the hydroelectric dams in Sikkim, and that any committee constituted to examine HEPs in the eco-sensitive areas of Sikkim, pay close attention to this report.

No ecological flows from NHPC's Teesta V What the report says about this subject makes disturbing reading: "On 16th May 2013, driving upstream of the Teesta V powerhouse, we noted extremely low flow in the river, which was particularly so in the stretch of the river directly downstream of the Teesta V dam, where the river was diverted through a tunnel. Such low flows, where River Teesta has been diverted through tunnels, are a cause for serious concern in the context of maintaining the ecological function of a river. We enquired from NHPC officials about how details of ecological flows were determined, and learnt that ecological flow was not a parameter that was optimised in the planning process. We were told that downstream flows were effectively a consequence of maximising hydropower potential of various river basins as determined jointly by the Central Electricity Authority and the Central Water Commission. These values, in turn, were used as the basis for soliciting proposals for hydroelectric power projects. In other words, we learnt to our great dismay that absolutely no ecological consideration whatsoever was used in the process of determining the hydropower potential of river basins."

Violations galore, government unresponsive In a submission made by Tseten Lepcha in his capacity as the then Honorary Wildlife Warden of North Sikkim to Jayanthi Natarajan on 8th October 2011, Lepcha had contended that how the 1750 MW Demwe Lower by the Athena group is being considered by the SC-NBWL for wildlife clearance,

when a project by the same promoters (1200 MW Teesta III) is under construction in violation of Supreme Court orders (without wildlife clearance). The current NBWL report confirms that the 1200 MW Teesta III is under construction illegally, violating SC orders. In an earlier submission he had made to the SC-NBWL on April 19, 2011 he mentioned violation of the WLP (killing of a Serow - Schedule I species) in the 1200 MW Teesta III project being developed by the Athena group. The developer of the project, Teesta Urja Ltd (a special purpose vehicle of M/S Athena Pvt. Ltd.), through its sub-contractor, SEW Infrastructure Ltd, was involved in the death of a Serow (*Capricornis sumantraensis*), a Schedule I animal, at the project site on June 4, 2008.

Several attempts by this correspondent, to contact the PCCF -cum-Secretary of the FEWM department of Sikkim Mr. Arvind Kumar on his cell phone, and his official e-mail address to get the Sikkim government's official version on the controversy, remained unanswered.

How IPPs are cheating by flouting norms Sikkim Bhutia Lepcha Apex Committee (SIBLAC) convenor Tseten Tashi Bhutia, while speaking to this correspondent expressed immense joy at the NBWL report. "We have been protesting cultural and religious genocide being committed by the Sikkim government in the name of developing hydro power, apart from severely degrading the environment, this is a moral boost. I hope GOI takes strong action", he said. Bhutia added that there are violations of the Places of Worship (special provisions) Act 1991, extended to Sikkim, and the gazette notifications of the Chamling government, in allowing the Tashiding project on holy river Rathong Chu.



Photo from SC-NBWL com report with this caption: The Teesta V dam showing the virtual absence of flow in the river downstream of the dam, which can have devastating consequences for river-dwelling and river-dependent species

SIBLAC along with another apolitical group Save Sikkim on September 28th, 2013 filed FIRs against an IPP, Shiga Energy Pvt Ltd, developer of the 97 MW Tashiding hydro power project for alleged cheating, distortion of facts and violation of environmental norms and the SC order. This is in addition to an ongoing PIL at the Sikkim High Court.

The facts revealed by Tseten Tashi Bhutia in his FIR are startling. As per the requirement of the Environment Ministry (Govt of India), the executing agency i.e. Shiga Energy Private Limited, is required to submit a Six-monthly compliance report⁴ on the status of the 97 MW Tashiding HEP to the stipulated environmental conditions in a prescribed format. However, while going through the latest Six monthly report dated 22.11.2012⁵, it is found that as against the IX necessary conditions required in the prescribed format, the executing agency have intentionally deleted Stipulation No. VIII, jumping to the next condition.

The Monitoring report of MEF regional office (signed by DR S C KATIYAR, SCIENTIST 'D') dated Oct 2012⁶ says about Stipulation VIII: "the proposed site is about 5 Km away from the buffer zone of the Khangchendzonga Biosphere Reserve as per Supreme Court order clearance from NBWL may be obtained (if required)." Status of Compliance: "Not complied with" and further writes; "the project also falls within 10 Kms from the Fambomgla Wildlife Sanctuary, as such; NBWL clearance needs to be obtained."

Thus the agency has not complied to nor has obtained NBWL clearance yet as evident from the Monitoring Report dated Oct 4th, 2012. In other words, the executing agency has simply been misleading and cheating the authorities till date by submitting wrong report to Ministry of Environment and Forest, Govt. of India. More surprising is to witness the lack of action by the MoEF on these manipulations and lack of action even after the Monitoring Report clearly reports non compliance.

Rathongchu is a sacred river according to the Denjong Neyig and Nesol texts having its source at various sacred lakes at Khangchendzonga, Sikkim's supreme guardian deity and runs independently till it meets River Rangit at the lower reaches; This sacred Rathongchu is the source to the annual Tashiding *Bumchu* ceremony which is held in the first lunar month, corresponding to Feb-March. In fact, this *Bumchu* (Sacred Water) cer-

emony has been continuing for centuries and attracts thousands of devotees and pilgrimages from far across including Bhutan, Nepal, and entire Himalayas.

Ironically, a one-man Professor P S Ramakrishnan committee, of the JNU School of Environmental Sciences, submitted a report titled Ecology and Traditional Wisdom, on Oct 9th 1995, to the govt of Sikkim where he categorically stated, "on social, cultural, and religious considerations, apart from the rich bio-diversity and fragile ecology of the Yuksom valley region, I strongly recommend that no hydro power or other projects should be allowed on River Rathongchu, deemed extremely sacred by Buddhists". Under the circumstances, how was the Tashiding HEP allotted to the Shiga Energy Ltd by the Sikkim Govt and cleared by the MoEF is moot question.

Some of the other proposed projects that are mentioned in the SC-NBWL committee that are also coming up requiring the SC-NBWL clearance include the 300 MW Panan HEP, the Ting Ting HEP, besides the ones mentioned above, see the accompanying map from the SC-NBWL report. Other hydropower projects of Sikkim that are being considered by the MoEF for clearances and that are also close to the protected areas include: 63 MW Rolep HEP on Rangpo river in E Sikkim (5-6 km from Pangolakha and Kyongnosla WLS), 126 MW Ralong HEP (4.05 km from Khangchendzonga Biosphere Reserve and 1.8 km from Maenam Wildlife Sanctuary), 96 MW Chakung Chu HEP in N Sikkim district (1.8 km from Khangchendzonga Biosphere Reserve). Other such possible projects include: 71 MW Sada Mangder, 60 MW Rangit III, among others.

Let us hope now following the SC-NBWL report, the MoEF will promptly order stoppage of illegally ongoing construction of the guilty HEPs, not waiting for the SC-NBWL committee to meet, since the new Standing Committee of the NBWL remains to be constituted after the term of the earlier committee ended. The evidence provided by the SC-NBWL committee is sufficient to take prompt action. The fact that the MoEF has not take action yet, weeks after submission of the SC-NBWL report speaks volumes about the possible collusion of the MoEF in this murky affair.

Soumik Dutta

(duttauni@gmail.com, with inputs from SANDRP)

4 For latest version of the compliance report, see: http://environmentclearance.nic.in/writereaddata/Compliance/34_Tashiding%20Six%20Monthly%20Compliance%20Report_May%202013.pdf. In this report, the column before the condition VIII says: NA (not available).

5 See the report here: http://environmentclearance.nic.in/writereaddata/Compliance/21_Shiga_15052012.pdf, the said condition is also missing from this earlier report: http://environmentclearance.nic.in/writereaddata/Compliance/53_Shiga%20six%20monthly%20compliance%20report%20201_20.112010.pdf and also from this report in Nov 2012: http://environmentclearance.nic.in/writereaddata/Compliance/23_THEP%206%20MONTHLY%20Compliance%20report%20Shiga%20_copy.pdf

6 See the report here: http://environmentclearance.nic.in/writereaddata/Monitoring/57_Monitoring%20Report%20of%20Tashiding%20HEP.pdf

NORTH-EAST INDIA UPDATE

Subansiri Basin Study The Vol. 1 of Revised Interim Report of “Basin-wise Environmental Impact Assessment Study on Subansiri sub-basin in Arunachal Pradesh” by Central Water Commission (CWC) was discussed in the 68th Expert Appraisal Committee (EAC) meeting on September 23-24, 2013. The study has been done by IRG Systems South Asia Private Limited. SANDRP comments on this report: <http://sandrp.wordpress.com/2013/09/25/subansiri-basin-study-another-chapter-of-environment-subversion-in-north-east/>. Some of the significant issues pointed out by SANDRP are:

1. There is absolutely no discussion on the severe social impacts due to cumulative forest felling, flux of population, submergence, livelihoods like riparian farming and fishing, etc.
2. Consultants were not aware of the ground realities and that is why the report does not mention that Middle Subansiri dam have been recommended TOR in Sept 2010.
3. This study is based on flawed and incomplete Lohit Basin Study
4. The report does not assess the cumulative impacts of several aspects of dam construction in the Subansiri basin which include impacts of blasting and tunneling, impacts of mining for materials for construction, impacts on aquatic and terrestrial flora and fauna across the basin.
5. How many projects are actually viable considering the impacts, hydrology, geology, forests, biodiversity, carrying capacity and society of the basin has not been assessed by the report.

Simang I and II Simang-I HEP (67 MW) and Simang-II HEP (66 MW) are proposed on the Simang river in the Siang basin in East Siang District, Arunachal Pradesh by M/s. Lower Simang Power Pvt. Ltd and M/s. Upper Simang Power Pvt. Ltd- respectively. Both of these are SPV of Adishankar Power Pvt. Ltd. The project was given scoping clearance in the 21st EAC meeting in 15-16 December 2008. The project was considered again in the 67th meeting on 6th June 2013 for extension of TOR validity. SANDRP critique of Environment Impact Assessment studies for these projects can be found here: <http://sandrp.wordpress.com/2013/10/10/when-eias-dont-know-river-lengths-review-of-eiaemp-of-simang-i-ii-hep-on-simang-river-in-arunachal-pradesh/>.

It was surprising to find that in the EIAs there is no clarity on even basic parameters like the length of the Simang river. The project proponent held the public hearing without proper information to the public. Besides, during the public hearing there project proponent suppressed people's voices by hiding submissions given by people. The critique points out several critical issues - Shoddy Socio-economic Impact Study, No Environment flow assessment for the projects, Incorrect Assessment of River Use for the Projects, EAC Recommendations not Followed, Cumulative Impact of Migration of Outside Workers on Local Communities not Assessed, etc.

Panyor HEP The 80 MW Panyor HEP proposed on Panyor River (known as Ranganadi in downstream Assam) is 12 km upstream of the existing Ranganadi HEP in Lower Subansiri District of Arunachal Pradesh to be constructed by Panyor Hydro Power Private Ltd. The project was in the agenda of the 69th meeting of EAC held on 11-12 November, 2013 for ToR clearance but it was removed at the last minute. We have sent a submission to EAC on this project before it was removed from the agenda which can be found at <http://sandrp.wordpress.com/2013/11/11/panyor-hep-in-ranganadi-basin/>. The TOR clearance application of Panyor project does not provide adequate information about the project and larger Panyor/Ranganadi and Dikrong basin. The 'Form I' for the project does not state that there are at least 11 hydropower projects at various stages in the combined Ranganadi-Dikrong basin, including one operating, one under construction, three TOR approvals given & Memorandum of Agreement signed for additional five projects (in addition to the proposed project).

Lower Kopili Lower Kopili, a hydroelectric project with installed capacity of 120 MW is proposed to be constructed on the Kopili River in Dima Hasao district of Assam by Assam Power Generation Corporation Ltd (APGCL). This project was considered for scoping clearance in two meetings of EAC (68th and 69th meeting in 2013). SANDRP has sent several two submissions on this project. Our first submission for the 68th EAC on 23-24 September 2013, meeting can be found at - <http://sandrp.wordpress.com/2013/09/21/eac-must-address-issues-first-before-clearing-lower-kopili-hep/>. In our submission we had raised several issues which include dam

NORTH-EAST INDIA UPDATE

induced floods from the upstream Kopili dam, inadequate spillway capacity of Lower Kopili, acid contamination in Kopili due to opencast mining in Meghalaya and its threats to the proposed dam, neglecting the Kopili fault line etc. The cost of this proposed project was as high as Rs 12.41 crores per MW installed capacity and lack of thorough options assessment.

This submission was handed over to the project proponent in the 68th meeting of EAC to which the project proponent replied just before the 69th EAC meeting on 11-12 November 2013. APGCL has agreed with several of our concerns and agreed to take them into account in the EIA study. The response also mentioned about the loan of \$ 200 million sought from Asian Development Bank (ADB) for the Lower Kopili HEP. This will further increase the cost of the project and also have foreign exchange risks involved. But the issues of dam induced floods and how the construction of dam has changed the character of floods in the Kopili River and thorough options assessment was not been addressed adequately. The issue of acidic contamination posing a major threat not only to the proposed dam but to the upstream Kopili dam was admitted in an internal study of APGCL (study not in public domain, we have requested a copy of the same, but APGCL has not yet responded). In its reply to EAC, APGCL has only stressed for on technical solutions to this issue without reconsidering the issue of cost and viability or safety of the upstream dam. Raising these concerns SANDRP had sent a submission for the 69th EAC meeting.

Dinching project The Dinching HEP on Digo River, 4.5 km downstream of Selari village, near Bomdila town in West Kameng District of Arunachal Pradesh was considered for installed capacity reduction from 360 MW to 252 MW in the 69th EAC meeting. The project is being constructed by KSK Dinching Power Company Private Ltd from Hyderabad. The project was given ToR clearance on 8th November 2011. The reasons cited for this reduction were: 1. Submergence of Selari Bridge; 2. To have a free riverine reach of 1 km between tail race of Khuitam (u/s project of Dinching) and reservoir tip of Dinching and 3. Due to land occupied by Ministry of Defence. SANDRP has sent a submission on this project to EAC, some of the significant issues included in it are – no mention of actual full reservoir level before the reduction, lack of clarity regarding the free flowing length of the river between upstream Khuitam and Dinching, no mention of the projects in the downstream and free flowing river below Dinching and no mention of the revised height of the dam.

Jidu HEP The Jidu HEP proposed on the Yang Sang Chhu River, tributary of Siang River in Upper Siang District of Arunachal Pradesh with installed capacity of 92 MW was considered for ToR clearance in the 69th meeting of EAC. The state government had signed a MoA with Meenakshi North East Power Private Limited of Hyderabad for Jidu HEP. Some of the issues raised in the SANDRP's submission on this project include: need for on ground detailed investigation, no information about the forest under project area, incorrect estimation of influx of people, etc.

Kangtanshiri HEP The 80 MW Kangtanshiri HEP on Yargyap Chu river (a tributary of Siyom River) was considered for environment clearance by EAC of RVP in its 69th meeting on Nov 11-12, 2013. The EIA consultant is WAPCOS. SANDRP's comments on this HEP is available at - <http://sandrp.in/CommentsonEIAofKangtanshiriHEP.pdf>. From the very first sentence of the EIA it was very clear that the EIA consultant is biased and pro-project organization whereas EIA agency is supposed to be independent, non biased entity since an EIA is supposed to be an unbiased assessment of impacts of a project. We have also pointed out in our submission to the EAC that there are seven large hydropower projects in Yargyap Chhu river but the minima distance of 1 km, a rather weak norm set by EAC itself has not been followed. More importantly the cumulative environmental impact assessment study of Yargyap Chhu river, considering all the 7 large projects is yet to happen and therefore giving environment clearance to any project before that would not be proper.

Nyamjunchu HEP for discussion on Environmental Flow An important issue of environmental flows from Nyamjunchu Stage-I HEP is on agenda for the 69th EAC meeting. This is done despite the fact that the project was granted EC on the 19th April 2012, with specific e-flows recommendations. The communication from the proponent and response from MoEF about eflows or any other issue, in the case of this project was not

NORTH-EAST INDIA UPDATE

put up in the public domain and SANDRP had informed the EAC Member Secretary about this matter. This project should not have been discussed at the first place since it violated the CIC norms. The SANDRP submission on this project also raised several issues including incorrect methodologies for calculating e-flows, no site specific recommendations, ignoring the diversion of Taktsang Chhu River. The submission also showed how the tall claims of MoEF of implementing site specific recommendations of CIFRI report, which is itself a flawed report is completely baseless.

“Climate Change, Migration and Conflict in South Asia” - A critique A report *Climate Change, Migration and Conflicts in South Asia: Rising Tension and Policy Options across the Sub-continent* was published in Dec 2012 by Center for American Progress and Heinrich Böll Foundation. Authored by Arpita Bhattacharyya and Michael Werz, it has analyzed how migration and security concerns are overlapping in the era of climate change in South Asia. Even though the title mentions South Asia, it is mainly focused on India and Bangladesh. The central argument of the report is that an inevitable threat of climate change will intensify migration from Bangladesh to Northeast India, in general and Assam in particular. We found the report is over simplifying and very generalizing on many accounts and we have written a detailed critique of the report which is available at <http://sandrp.wordpress.com/2013/10/08/american-report-on-climate-change-migration-and-conflicts-in-assam-and-bangladesh-caters-to-status-quoist-and-american-world-view/>.

The report's firm belief that large scale migration from Bangladesh to northeastern parts of India is still continuing was not backed by any substantial data. In fact the census data shows a different picture. The report ignored the fact that social indicators of Bangladesh are better than those of India. The report's projection of sustainable urbanization as the solution for migration presented only one side of the story. This report accepted the current development path of coal based and large hydro-based power generation unquestionably and completely ignored the internal migration which is taking place within Assam and India. Talking about spread of Maoist activity in India, the report does nothing better than repeating the unfounded assertions of Indian government which discredits the report.

Compiled by Parag Jyoti Saikia

New Flood forecasting system from Bangladesh Bangladesh has come up a new flood forecasting and warning system with several amazingly useful features of forecasting floods available on their website from June 2013. Flood forecasting is a vital non-structural measure to mitigate flood losses which can be very useful for a deltaic nation like Bangladesh which face brunt of floods annually. The Flood Forecasting and Warning Centre (FFWC, <http://www.ffwc.gov.bd/index.php>) is under the aegis Bangladesh Water Development Board and is supported by UNDP through the Comprehensive Disaster Management Programme (Phase II) and Ministry of Disaster Management and Relief.

The homepage of the FFWC website presents a map of the whole country and its rivers, marked with flood forecasting sites in Bangladesh and even for a first time visitor it provides a good idea of the rivers in Bangladesh and their flood forecasting sites. The FFWC website can be also viewed in local language Bangla. The website provides the rain fall of 55 sites in four basin and water level data of 98 sites in Brahmaputra, Ganga, Meghna and South East hill basin. One of the features of the website is the 'Forecasting and Warning' which provides very substantial information regarding floods under following heads: 'Flood Summary', 'Flood Bulletin', '3-day Deterministic Flood Forecast', '5-day Deterministic (experimental) Flood Forecast', 'Medium Range (1-10 Days) Forecast', 'Structure Based Forecast' (available for a few structures like embankments or bridges on experimental basis) and 'Special Outlook' (only in Bangla language). Under the 'Map' tab, the website has 'Rainfall Distribution Map' and 'Inundation Map'. The 'Reports' tab holds annual reports on floods in Bangladesh for last five years. In the 'Hydrograph' tab, the website first provides of forecast of water level for each site through a graph and these are nested under 'Forecast', 'Monsoon' and 'Real time data' tabs. Under 'Forecast' the website provides observed water level at each selected site for the day, previous six days and forecast for the next three days. This also opens the scope for transboundary cooperation for sharing flood data among countries sharing Ganga-Brahmaputra-Meghna basins which includes Bangladesh, India, Bhutan, Nepal and China. There is a lot that India's Central Water Commission can learn from this as CWC's flood forecasting performance leaves a lot to be desired.

Short film on June 2013 Uttarakhand Flood disaster

Flood Ravage and the Dams of Uttarakhand

SANDRP and Vamatam has produced a 12 minute short film on *Flood Ravage and the Dams of Uttarakhand (Uttarakhand Flood Disaster - June 2013)*, available in Hindi and English, see: <http://youtu.be/bjOg7SKr6cQ> (Eng) and <http://youtu.be/uMYGdL32WH0> (Hindi).

In June 2013 Uttarakhand state in North India faced its worst flood disaster in recorded history. During the disaster and after, both electronic and print media, in English and local languages played an important role in highlighting how it was a manmade disaster in several senses, including the climate change perspective, the perspective on callous administration with zero disaster preparedness or response and also the perspective that focused on the role of haphazard, unregulated and unscientific infrastructure building in fragile and vulnerable ecology of the Himalayan Hill state in Ganga River Basin. The building of huge road network, tourism infrastructure and hydropower projects, neglecting the disaster vulnerabilities of the ground was generally talked about.

This short film tries to give an idea of the role played by existing and under construction hydropower projects in the Uttarakhand disaster. The film contains information, photos, maps, video, google images and voices of the affected areas and people in the context of hydropower projects. It contains photos of the dams and tunnels of the hydropower projects before and after the disaster. It provides some first hand accounts of the impacts of hydropower projects suffered by the people. While climate change had a role in providing first trigger for the disaster, the role played by the blasting, tunneling, damming and deforestation caused by the hydropower projects cannot be ignored.

Many concerned organisations had collectively written to the authorities to investigate the role of the hydropower projects in Uttarakhand disaster. However, it was the Supreme Court order of Aug 13, 2013 that clinched the matter, leading now to the constitution of a committee headed by Dr Ravi Chopra, member of National Ganga River Basin Management Authority (the NGBRA is headed by the Prime Minister of India). While some concerns about this committee remain, it is hoped that since it is appointed following the orders of the Apex court, it will be able to perform its role independently, keeping mind the concerns of the people, environment and future generations and get to the bottom of this issue.

We hope this short film will be useful to all concerned including the media, various arms of the governments in Himalayan region, academic institutions, judiciary, non government organisations and most importantly, the communities who have suffered in the disaster and who are struggling against the on-slaught and impacts of massive hydropower projects being developed all across the Himalayan region. We hope the film helps contribute in our collective efforts so that when such event strikes again (climate scientists are telling us that more such disasters are likely all across the Himalayas with greater frequency and intensity in changing climate), the contribution of hydropower projects are minimized or avoided.

DVD copies of the film are available from: Marthand Bindana marthand.bindana@gmail.com and SANDRP ht.sandrp@gmail.com. Comments on the film and contributions towards costs of this film are welcome. Please also help us take the film to wider groups of concerned people.

Dams, Rivers & People The Annual subscription for DRP is Rs 125/- (for individuals) and Rs 500/- (for institutions). Please send a DD in favour of "Dams, Rivers & People", payable at Delhi, to our address (DRP, c/o 86-D, AD block, Shalimar Bagh, Delhi 110 088). Or, you can send by bank transfer, contact SANDRP for details. Subscriptions can be sent for multiple years at the same rate. The DRP is also available in electronic versions and can be accessed at www.sandrp.in/drpinindex.

Edited, Published, Printed & Owned by Himanshu Thakkar at 86-D, AD Block, Shalimar Bagh, Delhi - 88.
Printed at Sun Shine Process, B -103/5, Naraina Indl. Area Phase - I, New Delhi - 110 028