

8 December 2011

To,

**Ms. Jayanthi Natarajan,  
Minister of State, Environment and Forests (Independent Charge)  
Chairperson, Standing Committee on National Board for Wildlife (NBWL)  
Paryavaran Bhavan,  
New Delhi**

**Subject:** Comments on WAPCOS study 'Effect of Peaking power generation by Siang Lower HEP, Demwe Lower HEP and Dibang Multipurpose HEP on Dibru Saikhowa National Park' uploaded on MoEF website, Nov 2011

**Dear Madam,**

We understand that the Standing Committee of the National Board for Wildlife is examining the 1750 MW Demwe Lower Project on Lohit River for wildlife clearance. We went through the study "**Effect of Peaking power generation by Siang Lower HEP, Demwe Lower HEP and Dibang Multipurpose HEP on Dibru Saikhowa National Park**" done by WAPCOS which has been put up on the MoEF website in November 2011 and which may have significant bearing on NBWLs decision.

The study states that it has been done in response to discussions in the EAC meeting held on 12.11.11 wherein questions regarding impacts of hydro peaking of the three projects: 2700 MW Lower Siang HEP, 3000 MW Dibang Multipurpose HEP and 1750 MW Demwe Lower HEP on the downstream Dibru Saikhowa National Park were raised. Some NGOs and independent experts had also made representations about it.

This important study has been completed by WAPCOS in 6 days from the EAC meeting.

There are some inherent contradictions in the study itself, but before going into that, it will be important to understand if and why this study contradicts Chapter 7 of the EIA study of Lower Siang "Prediction of Impacts" which also tried to predict impact of dams on Dibru Saikhowa NP. This was made public on October 20, 2010 for the Public Hearing. Both the latest study and the Lower Siang EIA cannot be right. One of them is wrong presentation of facts and WAPCOS should clarify the contradictions.

**Concerns regarding "Effect of Peaking power generation by Siang Lower HEP, Demwe Lower HEP and Dibang Multipurpose HEP on Dibru Saikhowa National Park"**

- a. **Severely restricted scope of the study:** The study confines itself to the impacts on Dibru Saikhowa NP due to only one single variable i.e. **changes in water levels because of upstream dams**. However, Dibru Saikhowa NP (and biosphere reserve) is a part of the riverine ecosystem and is affected by any change in the riverine ecology.

Changes in the upstream water quality, fish assemblages, zooplankton and phytoplankton, turbidity, etc., will have cumulative impacts on the biodiversity of the National Park and all these factors are severely affected by hydro peaking. Hence,

considering the park in isolation, that too studying only the impact of water level changes on the park is highly restricted, insufficient and does not give enough evidence for informed decision making.

Ecological impacts of the drastically changed hydrological regime will have repercussions on all ecosystem components like:

**Chapories in Lohit**, which are an Important Bird Area and proposed Ramsar site supporting critically endangered bird species. Unlike the Lower Siang EIA Study, Chapories do not even find a mention in this latest version.

**Piscean diversity** downstream of the dams, at and downstream of the confluence, which includes India's National Aquatic animal, the **Gangetic Dolphin**. As pointed out by Dr. Bibhab Kumar Talukdar in his submission to the NBWL on 11 Oct 2011, May 3, 2010 order of the National Environmental Appellate Authority (NEAA) has asked that the NBWL enquiry should also examine impacts in the downstream on Gangetic River Dolphin and Important Bird Areas (IBAs), which include the Dibru Saikhowa Complex, **but the present report makes no mention of the impact of hydrological changes on either of these aspects.**

As pointed out by Dr. M. Feroz Ahmed, Member of National Tiger Conservation Authority of India in his submission to the NBWL on the 2 December 2011, **Tiger corridors** exist in the riverine islands and tracts forests at the base of hills of the Dibang, Siang and Lohit, connecting this area to known habitats like Dibru-Saikhowa NP and forests in plains and lower hills in Arunachal Pradesh. Hydro peaking will affect these corridors and effectively, tiger populations in Dibru Saikhowa NP. This aspect has been entirely neglected by the current WAPCOS Study.

This is only an indicative list, but it is clear that a more holistic analysis of the combined impact of all three projects on the downstream ecosystems, including and not limited to Dibru Saikhowa NP and biosphere reserve is needed.

- b. No Conclusions drawn about impact of flow fluctuation on riverine and riparian ecology:** The study draws absolutely NO conclusions about how the flow fluctuation and changes in hydrological regimes (to which many species are very sensitive) will affect the fragile riverine biodiversity and in turn biodiversity in Dibru Saikhowa and surrounding areas. Without analysing the impacts of modified hydrology on components of the ecosystem like fish, riverine islands, sediment flows, etc. arriving at an informed decision will be impossible.
- c. Incomplete conclusions about impact of changing water levels on riverine and riparian ecology:** The study claims that the fluctuation in water levels during winter peaking at Dibru Saikhowa as a result of Demwe Lower will be 0.78 meters that is **2.55 feet**. At the same time, **level difference when all three projects are peaking is estimated to be 2.34 mts i.e. 7.67 feet!** (Page 26, Case I – Present Scenario Post 2003 – When Lohit has Changed to Southern Boundary of Dibru-Saikowa) **Such a massive level change of water, at an average distance of 80 kms downstream of dam sites will have drastic impacts on the ecology of the riverine stretch between dams and Dibru Saikhowa NP, affecting the NP, which have not been assessed or addressed.**

**We take a strong objection to the statement made in the report that these level changes** “will not have any impact on the park as it is lower than lowest elevation of the Park”. It is alarming to see blanket statements like these without any sort of ground-truthing, field studies or discussions with ecologists and scientists who have

been working on the area. It seems impossible that a fluctuation of 7.67 feet will not impact the amphibians, fish, mammals and nesting birds which use the river in different ways along its length and also in Dibru Saikhowa NP.

- d. No mention on cumulative impact of dams on **Sedimentation/ erosion pattern at Dibru Saikhowa NP**: Dibru Saikhowa NP is strongly affected by sedimentation and erosion patterns of the rivers. All the three dams in the upstream will affect the sediment regime drastically. **However, the present study does not address this issue at all.** Dibang EIA has mentioned the issue briefly and claims that: "Dibru-Saikhowa National Park is subjected to three to four waves of flood every year. These recurring floods often change the course of Lohit and Brahmaputra rivers itself, causing both soil erosion and siltation, playing a significant role in modifying the habitat of the Park." **(This study was also done by WAPCOS.)** Many wildlife experts have highlighted the importance of sedimentation and erosion in the existence of the park and **it is shocking to see this element completely missing from the present study.**

**In addition to a study on impact of sedimentation and erosion**, an analysis of the impact of sudden water releases from all the three projects simultaneously at 1-in-100 year flood also is required. Similarly an analysis of impact of sudden annual release of silt from all the three projects simultaneously and separately is required.

- e. **Socio ecological impact of villages inside Dibru Saikhowa National Park**: There are two forest villages inside the NP, with an approximate population of 1500 people. The impacts of hydrological changes on these villages in terms of transport, safety, etc., have not been addressed. **The impact of the changed hydrological regime in further stretches of the rivers has also not been assessed.**

- f. **Contradictory data presented**: There are a number of contradictions in the data presented in the latest WAPCOS report.

1. **Distance of dams from Dibru Saikhowa NP boundaries**: Dibrang EIA mentions that Dibru Saikhowa NP is 63 kms downstream of the dam site, however the latest WAPCOS report states that it is 87 kms from the dam site. This is a significant difference, especially considering the emphasis on flow attenuation based on distance.
2. **Eflows: Without providing any source, the report claims on page 10 that eflows are 'assumed' as:**

S. No.	Project	Minimum flow release, Cumec
1	Lower Siang HEP	328
2	Demwe Lower HEP	70
3	Dibang Multipurpose HEP	50

Firstly, these are not eflows, but just one component in the regime: the lowest releases in the leanest periods (January/ December).

Eflows stated in the EIA reports on which Environmental Clearance is based should be the logical basis for these figures, however, eflows figures in individual EIAs and latest WAPCOS Report differ.

- **Lower Siang HEP:**

The Eflows section of the Lower Siang EIA **does not mention a minimum release of 328 cumecs in the leanest months, as it is stated in the current WAPCOS Report.** According to Eflows section of the EIA, discharge with base load (which is assumed to be higher than the calculated eflows) is in the range of **396 cumecs-917 cumecs** during December and January. (Table 8.4, Page 8-10, EIA Lower Siang). It is also mentioned that “As the discharge with base load will be more than the environmental flows there will not be any requirement of releasing any additional discharge.” However, the same EIA mentions “During lean season, to avoid drying of river stretch, it is proposed to operate the hydro electric project at minimum base load of 180 MW when the flows in the river are minimum. This will result in continuous minimum discharge of **350 cumecs.**” (Section 7.7, Page 7-18)

**Maximum design discharge:** According to table 7.2 (page 7-3) of the ‘Prediction of Impacts of Lower Siang study’, design discharge for Peaking of 2700MW for 3 hours for lean season is considered as **4932 cumecs**, and **not 5462 cumecs** as assumed by the latest study.

- **Demwe Lower HEP:**

According to WAPCOS Lohit Basin Study, the minimum flows during the period of December and January are 76.8 cumecs and 71.5 Cumecs. Minimum flows mentioned in the present WAPCOS study: 70 cumecs. According to the EIA, In February, this is further reduced to 66.1 cumecs, which is NOT stated in the WAPCOS report.

- **Dibang Multipurpose HEP:**

The EIA states eflows at 49 Cumecs for November, 55 Cumecs for December and 60 Cumecs for January. WAPCOS study states a figure of 50 Cumecs. Also, the timing for lowest minimum flow releases for Dibang (**November**, not December or Jan) does not coincide with leanest period of Demwe Lower and Lower Siang.

### **3. Assumptions about eflows:**

**As with all the above cases, there are serious issues about eflows assessed for Dibang Multipurpose Project. According to the EIA, Building Block Methodology has been adopted to allocate a mere 15% of average inflow during this period as eflows.** (“Season III: This season is considered as low or lean or dry flow season. It covers the months from November to March. The proposed minimum flow is taken as 15% of average flow during this period.”)

On the other hand, for Lower Siang, which is an adjacent river basin, the Season III flows for November to March according to BBM are taken as “Season III **as 20% of average flow during this period.**”

**What is the ecological basis for this difference? Also, what is the assumption for using these blanket percentages in the first place?**

**The manner in which eflows has been assessed by all the EIAs and basin studies (3 out of 4 conducted by WAPCOS) are alarming, which will have irreversible impact on the ecology of the region, including the Dibru Saikhowa NP. No independent experts or experts from ecology and wildlife have been consulted in this exercise. We strongly appeal to the NBWL to raise objections about this basic issue which will impact the entire river ecology, downstream livelihoods and associated wildlife, including the Dibru Saikhowa NP, IBAs and endangered species like Gangetic Dolphins and Golden Mahseer.**

**Entire eflows section of the Lohit Basin Study done by WAPCOS which includes Demwe Lower** has been based on several crucial flawed assumptions. The calculations and methodology adopted for eflows assessment can be considered arbitrary at best. Many organisations have written to the MoEF about the flawed assumptions and methodology adopted for the Lohit eflows study.

**Considering these facts, the basic eflows calculations need to be verified by a team of ecologists, wildlife experts and hydrologists including independent experts, and impact thereof on the power generation and project viability needs to be assessed and CEA and others informed, only then can informed decisions regarding impacts of hydrology on biodiversity can be made.**

4. **Range of Minimum and maximum discharge during lean season peaking:** The Prediction of Impacts Study, Lower Siang of WAPCOS considered range of maximum and minimum discharges during peaking at the confluence of Siang and Brahmaputra ( approx, 7 kms upstream of Dibru Saikhowa NP) as **7610 Cumecs for 3 hrs and 663 Cumecs for 21 hrs** (Table 7.9 page 7-35)

The latest study claims this as: **2360.53 Cumecs for 3 hrs and 518.89 cumecs for 21 hrs** (Page 16 –c, Page 26) at the first cross section of Dibru Saikhowa NP. WAPCOS should be asked to explain these gross contradictions and the EIA for Lower Siang should also be relooked at.

**CONCLUSION** It seems WAPCOS has severely misrepresented the data to give a wrong picture to the NBWL about the actual hydrological flow variations during peaking hours at Dibru Saikhowa NP and its impacts on wildlife, ecology and ecosystem goods and services. WAPCOS should be asked to explain this and if there are no reasonable explanations for such wide variations, the report should be rejected and an independent credible agency should be asked to redo this.

In any case, the very crucial role of an independent, credible agency with multidisciplinary panel of experts from the fields of ecology, wildlife, hydrology, geology, social sciences, etc., is imperative while making decisions of such gargantuan proportions, which have the power to create irreversible impacts on ecology and livelihoods. A single agency, that too with a major conflict of interest like WAPCOS, should not be solely relied on for this.

Keeping all the issues raised in this letter and several submissions made to the NBWL and MoEF in mind, we urge the NBWL to reject the WAPCOS report and wildlife clearance for Demwe Lower HEP.

Thanking you,

Yours Sincerely,

Parineeta Dandekar  
South Asia Network on Dams, Rivers and People (SANDRP)  
c/o A2/402, Kanchanban Apts, Shivtirtha Nagar, Kothrud, Pune 411 038  
9860030742  
[parineeta.dandekar@gmail.com](mailto:parineeta.dandekar@gmail.com)  
[www.sandrp.in](http://www.sandrp.in)