

Towards sustainable hydropower Development in Arunachal, Northeast India

19th Feb, 2015

To
The Hon'ble Prime Minister of India
New Delhi.

(Through the Hon'ble Governor, Assam, Nagaland)

A memorandum towards Sustainable Hydro Power Development in Arunachal Pradesh, North East India

Respected Prime Minister,

We the undersigned organizations from Assam wish to take the liberty of bringing to your urgent attention issues and concerns of the potentially affected people relating to the proposed 150 plus dams in Arunachal Pradesh, so that the scale of devastations that these dams would unleash in Arunachal and cumulatively in Assam can be properly comprehended. We do so in the earnest hope that such an appreciation would provide you with adequate grounds to order a comprehensive review of these dams especially, in the light of the recent Affidavit submitted by the Ministry of Environment, Forest, Climate Change, (MoEFCC) before the Hon'ble Supreme Court regarding the Hydro Electric Projects of Uttarakhand in December 2014 in the Alaknanda case (IA No.6/13 arising out of Civil Appeal No. 6736/13 in the case of Alaknanda Hydro Power Co. Ltd. etc. appellants Vs. Anuj Joshi and Ors. etc). The Affidavit by MoEF states that "A large & small hydropower projects on the Ganga and her Tributaries all over the Himalayas are a threat to the aviral dhara of the Ganga." The same is the story of the Arunachal Dams.

About 160 hydro power dams are proposed in the 4 valleys of Arunachal - Lohit, Dibang, Siang & Subansiri. These hydro projects are termed as Run of the River (RoR) schemes, giving an impression that whatever is flowing in the river is flowing through turbines and / or over the dam without disturbing the natural flow of the river. Nothing is further from the truth. The flow of the river is held up for 20 hours or so in the dam when the project is "offgrid", and is released in 4 hours or so by running all the turbines at night, in the lean months. We may term these dams as 4 hr peaking generation dams to distinguish them from true Run of the River (RoR) dams. These types of dams destroy the environment & ecology completely downstream of the dam during the lean months; irreversibly.

2. The Uttarakhand catastrophe of June 2013 : MoEF Affidavit

The Hydro Power dams of Uttarakhand had a great devastating impact on the catastrophe of June 2013 and this has been admitted now by none other than the Ministry of Environment & Forest and Cli-

mate Change (MoEF CC) in an Affidavit in the Supreme Court in December 2014 (as a Respondent to IA No.6 of 2013, Civil Appeal No.6736 of 2013). The vital aspects of cumulative impact study of a river basin, longitudinal connectivity and aviral dhara (continuous flow) have been articulated by the government through MoEFCC now in its Affidavit to the Supreme Court and new norms for Environmental Clearances (EC) for Uttarakhand HEPs is in the pipeline, in fast track, based on these vital aspects of environment and ecology.

This stand by MoEFCC is perhaps due to the Hon'ble Prime Minister's laudable Ganga Rejuvenation Project and also because the fact that Hon'ble Supreme Court has scrapped 24 of the 39 HEPs of Uttarakhand.

We welcome the new stand of, MoEFCC under the new dispensation wherein new vision for Hydro Power dams of Uttarakhand has been articulated, although, we must add that this realization is at the cost of over 10,000 people who lost their lives in the Uttarakhand disaster. It is only logical and we demand that what the MoEFCC is now advocating for Uttarakhand i.e. - cumulative impact assessment, longitudinal connectivity, aviral dhara (continuous flow), must be true of all Northeast dams as well. The affidavit by MoEF is a 'Dossier' of what went wrong in Uttarakhand because of the 4 hours generation model Hydro Power Dams and we need to implement these conclusions in the proposed dams of Arunachal now and not wait for another potential and more potent disaster to happen in the North East.

3. The crux of the problem :

(i) 4 hr generation Dams

When water is held up by the 4 hr generation dams completely or to a trickle for 20 hours or so in winter, the river downstream of the dam will dry up for 20 hours and a flood will then descend for 4 hours, and when this unnatural sequence continues day after day in winter months, the ecology of the river will be devastated along with the lifestyle and livelihood of the riparian people. It will also result in high dams as a big reservoir is needed to hold the water for 20 hours, creating environmental issues upstream and downstream of the dam and many 'risk factors', specially, downstream of the dam, in the fragile sub Himalayan areas in zone V of the seismic scale.

These dams are planned as per the Hydro Power Policy, 2008 of Govt. of Arunachal Pradesh. The 'objective' of the Hydro Power Policy, 2008 is only to develop Hydro Power and to accelerate the pace of hydropower development. There is no mention about environment, ecology, riparian people in the 'objective' of the Hydro Power Policy 2008. The Policy objectives completely ignores the water allocation priorities as set in the National Water Policy of Drinking

Water, Irrigation, Hydro Power and Ecology etc.

Since environment, ecology and riparian people are not a part of the above mentioned Hydro Power Policy's, 'objective', arbitrary level of generation is fixed for the Hydro Power projects of Arunachal, which is totally destructive in its bid to generate maximum power for maximum profit for the Developer.

Ministry of Environment & Forest and Climate Change (MoEFCC) acted as a 'Complementary Ministry' to this 'maximum power generation for maximum profit' policy by endorsing the 4 hr generation dams through their Environmental Clearance process, at the cost of total destruction of environment, ecology and the riparian people.

These so-called RoR schemes (4 hour generation dams) snatches away from the riparian people, what they have - a flowing river in the winter that gives them livelihood and a social and cultural lifestyle endemic to each river. They have been deprived of any stake on their rivers which makes the Hydro Power Policy, 2008 a mockery of the National Water Policy, 2005.

(ii) Water : A Fundamental Right

The right to water has been derived from the fundamental right to life under Article 21 of the Constitution. In addition, the Constitution recognizes economic, social, and cultural rights under the Directive Principles of State Policy. Although non-justiciable, they are fundamental to the formulation of public policy, governance, and the interpretation of constitutional rights.

Article 39(b) provides : "The State shall, in particular, direct its policy towards securing that the ownership and control of the material resources of the community are so distributed as best to subserve the common good" Under Article 48A read with 51A (g) of the Constitution obliges the State and all citizens to save and protect the environment including forest and wildlife.

(iii) Grave Consequences in Arunachal and Assam because of the 150 plus Hydro Power Dams in Arunachal :

a) In Arunachal :

In the Siang Valley of Arunachal, 44 hydro power projects are planned and cumulatively these projects will impact more than 500 km of river stretch of which 353 km will be converted to reservoirs. For the main river Siang, 208 km length of river Siang, out of 298 km, will be converted into 'reservoir' based on information as available in the public domain. Longitudinal connectivity and integrity of the river will be seriously undermined. The people of Arunachal especially is of the Siang Valley will hold huge reservoirs of Siang Upper Stage II (3750MW), Siang Upper I (6000MW), literally on their 'heads' in a highly fragile and highly seismic region (Zone V). (To be continued)

BY C
GUW
A dha
Digha
day b
all tra
testin
of the
tral g
and v
isatio
stage

Towards sustainable hydropower Development in Arunachal, Northeast India

Subansiri Lower Hydro Electric Project:

The work on Subansiri Lower Hydro Electric Project suspended since Dec. 2012 due to people's protest on various aspects of the Dam. Subansiri Lower Hydro Electric Project (SLHEP) can be converted into a 24x7 true RoR project, by utilizing the Power House and the Intake to Power House which are already constructed. This is eminently feasible because the level of construction of the dam is still at a low level - 70 m of the dam is yet to be constructed. This conversion will resolve the present impasse over construction of the dam.

8. Flood Control and Dams of Arunachal

The Brahmaputra Board planned to construct at the present site of Gerukamukh where the Subansiri Lower Hydro Electric Project (SLHEP) is under construction, a 257m high dam with a storage of 14,000 million cubic meter and a flood storage of 2700 million cubic meter. But the plan had to be scrapped for various reasons to

be replaced by 3 cascading Hydro Power dams - Subansiri Upper Project (SUP), Subansiri Middle Project (SMP) and Subansiri Lower Project (SLP). At any rate Subansiri constitutes only 10-12% of Brahmaputra's flow.

As big storage dams are not in the reckoning, no such dam can be built over Siang, Dibang, Lohit, the constituents of Brahmaputra and as such one has to accept the fact that Brahmaputra flood cannot be controlled by dams in Arunachal.

Flood and erosion problem of Assam has to be tackled through nonstructural scientific measures with a new vision and should be declared as a national problem for an effective solution and implementation.

9. **PEOPLE'S PROTEST - Inevitable if proposed dams of Arunachal are not scrapped to be replaced by sustainable smaller dams.**

When the 408 MW Ranganadi Hydro Electric

Project of NEEPCO, in a sub basin of Subansiri itself, was under construction there was no public protest for construction of the dam. People welcomed the project. Only after commissioning of the project in 2002, when people witnessed the consequences of the project, - the river turned into a sandy desert in the winter, and devastating floods swept the area in monsoon due to sudden release of the sluice gates, did the people realize how these dams affected the riparian people.

Opposition to Subansiri Dam was triggered by the realty check of Ranganadi Hydro Electric Project when people witnessed first-hand what happens to them from these hydro power dams. (In Ranganadi the tailrace water was even diverted to a separate basin!)

Had the intentions of Ranganadi Hydro Power Project was sustainable (just), today a sustainable Subansiri Project would have been completed long back! Probably many dams of Arunachal would have been completed by now.

10. Awareness of people :

For MoEFCC and private Developers, transparency is anathema. They do not divulge to people vital aspects of a project that directly affect the riparian people - like water flow downstream of the dam etc.

People are confused. They are protesting against big dams but are unaware of other vital aspects of these dams to make considered choices. They are unaware about 24x7 sustainable hydro power projects.

The undersigned organizations, will visit every village, town and will educate people on various aspects of these projects in Arunachal, so that the issue of development is brought to the forefront,

- that we want development,

- that we want power in a sustainable way,

- that present dams will destroy us and

must be opposed at any cost.

People must realize that the consequences of the present 4 hour dams of Arunachal will manifest suddenly only when these dams are commissioned after 10 - 15 years and their horrific consequences are then irreversible.

Major protests are inevitable unless these proposed dams of Arunachal are not scrapped, to be replaced by 24x7 sustainable dams. It also will be a travesty of justice, if the norms for Uttarakhand dams of Aviral Dhara, longitudinal connectivity, cumulative impact assessment survey of the basins etc. as being envisaged now, are not incorporated for Arunachal Dams. Natural flow of the rivers is sacrosanct for Arunachal rivers of North East India.

11. MoEFCC need to shed past legacies :

MoEFCC need to come out of its destructive policies of the past, like environmental impact assessment for only 10 km downstream of a dam, no release of water for 20 hours from a dam, sanctioning Environmental Clearances (ECs) for projects that sends the river through pipes/tunnels for kilometres, no Cumulative Environmental Impact Assessment etc. for hydro projects, which are legacies of the past Governments.

In Uttarakhand, the process of a new beginning is taking shape. The NDA Govt. needs to usher in a transparent Environmental Policy for Hydro Power Projects which balances environment, people and development in a sustainable way.

12. An urgent Review

In the above context, especially, in view of the revelation by MoEFCC about the direct impact of the 4 hr. generation dams on ecology and people, we pray for an immediate and urgent comprehensive 'review' of the dams of Arunachal so that

(a) All the proposed 150 plus dams of Aru-

nachal are scrapped immediately

(b) A basin wise cumulative impact assessment by an interdisciplinary expert group is carried out in the four valleys, - Lohit, Dibang, Siang, Subansiri (as is now advocated by MoEFCC for Uttarakhand in its Affidavit to the Supreme Court) so that sites for the sustainable dams and other parameters can be fixed scientifically.

(c) True Run of the River Hydro Electric Projects with natural flow of the river unhindered through the dams, must be constructed in Arunachal Pradesh to take care of the energy needs of the North East India fully and the needs of the country.

(d) The Chinese must be told directly by the GOI and through the International Community that at no point of time ever, any scheme to divert any water from Yarlung Sangpo can be constructed by the Chinese including big reservoir dams. They can only construct true Run of the River (RoR) sustainable Hydro Electric Projects where the river flow is not obstructed. (unlike our present format of dams in Arunachal)

WE HAVE A NEW HOPE

A notification regarding "review" of the dams of Arunachal will allay people's fears and will be a great step forward towards a Transparent Environmental Policy for Hydro Power Projects which balances environment, people and development. It will truly be a GREEN feather in Govt's cap as an environmental catastrophe of global magnitude will be averted.

The conversion of the present destructive dams of Arunachal to true sustainable Run of the River (RoR) dams, will make our Hon'ble Prime Minister's vision of sustainable development a reality, as articulated by him during an election speech in Pasighat, Arunachal Pradesh on 22nd Feb 2014.

Sincerely Yours,

Signatories of the following organizations :

1. All Assam Mottock Yuva Chitra Parishad
2. All Assam Sonowal Kachari Chitra Santha
3. All Assam Brihottor Asomiya Yuva Manch
4. Asom Yuva Parishad
5. Hindu Yuva Chitra Parishad
6. Pathar Krishak Shramik Unnayan Parishad
7. Kolakhowa Mising Dolang Bane Kabeng Mahasava
8. Bhujpuri Yuva Chitra Parishad
9. All Assam Kaibortta Yuva Chitra Parishad
10. Asom Jatiyatbadi Yuva Chitra Sammilan
11. All Assam Koch Chitra Santha
12. All Assam Anusuchita Jati Yuva Chitra Santha
13. All Assam Sammileeta Maha Sangha

Copy to :

1. Hon'ble Governor of Assam, Nagaland
2. Hon'ble M.O.S. (Ind), Power, Govt. of India
3. Hon'ble M.O.S. (Ind), Environment etc., Govt. of India
4. Hon'ble M.O.S. (Ind), Water Resource, Govt. of India
5. Hon'ble M.O.S. (Ind), Development of North Eastern Region, Govt. of India
6. Hon'ble M.O.S. (Ind), Youth Affairs & Sports, Govt. of India
7. Hon'ble M.O.S. (Ind), Home Affairs, Govt. of India
8. Hon'ble Tarun Gogoi, Chief Minister, Assam
9. Hon'ble Chief Minister, Arunachal Pradesh

Annexures :

- (i) Photos of true RoR Dams - Zangmu (Tibet), Salal, Uri of J & K
- (ii) Map showing meeting of Constituent Rivers of Brahmaputra at Dibrusaikhowa National Park. (Concluded)

Sentinel 1st March 15

Towards sustainable hydropower Development in Arunachal, Northeast India

In Dibang Valley, 17 dam projects are planned. The Dibang Multipurpose Dam (DMD) is planned as the tallest gravity dam in a highly seismic zone (Zone V) and 4578 HA of forest land will be lost which includes about 3.5 lakh of trees. No cumulative impact assessment of 17 Hydro projects has been undertaken, it is not known, - what will be the total forest cover that will be destroyed and, what mindboggling numbers of trees that will be cut in the valley (3.5 lakh trees for one project only!). Effect of climate change for this scale of destruction of forest for 17 hydro projects of the Dibang valley alone taken cumulatively, is not studied. Nor is the impact on the Dihing Dibang Biosphere Reserve and on the Dibru Saikhowa Biosphere Reserve, 60 km downstream of the DMD.

In the Lohit Valley, the Lohit Lower Dam (officially termed as Dimwe Lower to confuse people, as the dam is just over the Hindu pilgrimage site of Parashuram Kunda in river Lohit) will destroy the Parashurama Kunda, the Hindu Pilgrimage site, where thousands of devotees bathe, specially on the Makar Sankranti day of the year, as water in the dam just upstream of the Kund, will be held up for 20 hours to a trickle. Parashuram Kunda finds its place Centre's plan to link the Hindu Pilgrimage sites of the North East India as a pilgrimage tourist circuit, but unless the format of the Dimwe Lower dam (Lohit Lower) is not changed to a sustainable flowing dam, the Kund will be dry for the pilgrims to bathe.

In the Subansiri Valley, same is the story, - 20 hours of hold up of water in dams, big reservoirs etc., in lean months.

b) In Assam :
Lohit, Dibang and Siang, the constituent rivers of Brahmaputra, meet within 25 - 30 km in the rim of the Dibru Saikhowa National Park. When water of the Lohit, Dibang and Siang is held up in the lower dams for 20 hours or so and all the water is then released in 4 hours by running all the turbines, Brahmaputra will dry up during the winter months for 20 hours or so near Dibru Saikhowa National Park and in the evening a Tsunami will descend when all the turbines will be switched on, sweeping away everything in its path. These 4 Hour model dams will destroy Brahmaputra and Assam valley environmentally, ecologically, socially and culturally. Dibru Saikhowa Biosphere Reserve, Majuli, Kaziranga will be devastated. If the Hydro Power projects of Arunachal are completed in the next decades in the present format, the above scenario will manifest by itself, in two or three steps or suddenly, one day, with irreversible consequences. Also, any impact of disasters in Arunachal valleys will be cumulative for Assam. A truly frightening environmental scenario!

There is no political boundary that binds nature and to man-made natural consequences.

4. Grave safety risks to Arunachal valleys & cumulative risk impact in Assam :

In the report of Technical Expert Committee (TEC) of Thatte & Reddy to study the various aspects of Subansiri Lower Hydro Electric Project, the TEC opined that there is "risk" of "panic release" of the reservoir by the "operator" in monsoon, apprehending a probable maximum flood, thereby, creat-

ing catastrophic consequences. TEC also commented that, "seismic science" based on which safety of the dam is established, is not an exact science yet. These are ominous warnings by the apex Technical Expert Committee (TEC) as appointed by the Planning Commission for Subansiri Lower Hydro Electric Project. But these warnings are true for all the dams as proposed in Arunachal.

PART-II

The proposed dams of Arunachal in the present format will destroy the environment and ecology of the pristine Arunachal and based on TEC's report on Subansiri, will also pose a major safety hazards to the people of the valleys.

After what has happened in Uttarakhand where over 10,000 people lost their lives, in which, HEPs had a "significant impact", the warning of the TEC can be brushed aside only at our own peril which will impact safety and security of the people in Arunachal and in the Brahmaputra valley of Assam.

5. A SOLUTION - FOR SUSTAINABLE DEVELOPMENT

- to scrap the present proposed dams of Arunachal
- to undertake basin wise survey of Lohit, Dibang, Siang, Subansiri to construct sustainable dams.
- to plan and construct 24x7 true RoR dams generating power in a sustainable way.

Our development model must be sustainable as per Hon'ble Prime Minister's vision and a Developed India needs power 24x7 not just for 4 hour. By converting the 4 hour generation dams to True Run of the River Dams where water flows

naturally from the dam, generating sustainable power 24x7, the ecology of the rivers and livelihood of the riparian people will not be destroyed. The height of the dams will be reduced greatly. Reservoir will become smaller into pondages. Cost of the projects will come down drastically. There will be no scope of "panic release" of the reservoir in monsoon, as there will be no sluice gates and the river will flow naturally downstream. The cost and gestation period of the projects will be reduced. Instead of one, say, 3000 MW dam, the same power can be generated by 3 sustainable dams close to each other. People will welcome such dams. People's right over water will be established.

Demographic Concerns in Arunachal :

Also, these big dams will need huge work forces. As per NHPC's web page information, on Salal Hydro Electric Power Plant in J & K, a work force of about 12,000 people was employed. The 3000 MW Dibang Multipurpose Dam, touted as the world's highest gravity dam (288m), will need many times more work force than Salal Hydro Electric Power Plant (690MW). All the other 16 HEPs of the Dibang Valley are big projects. When the work on these projects will start, the huge work force will totally outnumber the 12,000 or so of the indigenous community of the Idu Mishimis of the Dibang valley. It will create very serious socio-cultural and demographic issues and these concerns have been expressed by many Arunachalis including the President, All Idu Mishimi Student's Union (AIMSU) in the Public Hearing for the Dibang Lower Dam. These small tribal communities of rich and unique cultural heritage are now protected by the Inner Line Permit System.

However, smaller 24x7 sustainable dams will need less work force and may not pose as serious demographic threat to these small tribal communities.

6. Some sustainable Run of the River (RoR) Dams

The Chinese are planning to generate 2030 MW through 4 dams in Yarlung Tsangpo (Brahmaputra) in Tibet, Zangmu 510 MW, Dagu 640 MW, Jiexu 560 MW, Jiacha 320 MW. These are true 24x7 RoR hydro projects. The 510 MW Zangmu is commissioned recently. Dagu and Jiexu are planned to be constructed within 18 km upstream of the Zangmu Dam. It is possible to place three hydro projects in such a short distance only because these are true RoR projects with small pondages. In comparison, the 2000 MW Subansiri Lower Hydro Project has a reservoir which is over 40 km long.

Also, in India, as we understand, we have 24x7 true RoR dams in Western Kashmir because of the Indus Water Treaty of 1960 for which these rivers generate power but without interfering with the flow.

We have in river Chenab, Baglihar Dam (900 MW), Dul Haste Hydro Electric Project (390 MW), Salal Hydro Electric Project (690 MW). In Jhelum we have Uri Hydro Electric Project (480 MW), the second phase of which was inaugurated by the Hon'ble Prime Minister himself in July 2014. These are true 24x7 RoR sustainable projects.

So true 24x7 RoR hydro project is not sometime alien to the MoEF / GOI, but greed of the Developer has managed to change true RoR dams to "4 hr generation" type destructive dams, which we strongly oppose. (To be continued)

Sentinel 28th Feb 15