

# The Crux of the Problem : 4 hour Power Generation Projects

*Lower Subansiri Dam & Other Proposed Dams of Arunachal – A Sustainable Developmental Solution*

By P K Bhuyan

**T**here are over 150 dams, as proposed in Arunachal and they are all “4 HOUR POWER GENERATION” projects i.e., these projects, mostly through private Developers, will operate only for 4 or 5 hours in the evening / night during the peak load power demand of maximum tariff to maximize profit in the lean months. Because of this ‘greed’, practically no water shall be released for 20 hours or so from the dams and the downstream ecology of the rivers shall be totally killed, the livelihood and lifestyle of the riparian people destroyed and huge reservoirs are created literally on the ‘heads’ of the riparian people. This is a far cry from any sustainable development because we snatch away from the people, what they have – a flowing river in the winter that gives them livelihood and a lifestyle, by shutting off the river to a trickle for 20 hours or so when the project is off grid.

Run of the River (RoR) Projects :

To deceive the people of the true nature of these power and profit only dams, these are termed as Run of the River Projects (RoR) projects giving an impression that whatever flows down the river also flows out through the turbine(s) in the lean months without affecting the downstream natural flow of the river. But in reality, the water is held up for 20 hours or so in the dams when ‘the projects are’ off grid and the accumulated water is released in 4 hours of “peak period generation” in the evening/night creating a flood like situation in the river.

At any rate we need not get bogged down as to the definition of RoR schemes, but need to wake up from its consequences in the ground.

**Grave risks to riparian people :**

The country stands by the Mantra of all round DEVELOPMENT, but it must be without the destruction of ecology and environment. If development creates cataclysmic catastrophes like Uttarakhand where “4 HOUR GENERATION PROJECTS”, created havoc in June 2013 alongwith other aggravating factors, it cannot be development, and for which a Supreme Court Panel has recommended scrapping of 23 of the 24 dams. Whether these projects are finally scrapped or not is a different matter, but the signal from the panel is loud and clear – these dams

are anti environment, anti-people. Such catastrophes are a distinct possibility in the proposed Arunachal Dams including SLHEP, but when it occurs, will be in a much greater dimension because of bigger dams and reservoirs.

**PART-I**

The Technical Expert Committee (TEC) constituted by the Planning Commission expressed concern at the possibility of panic opening of the 760m cum live load Subansiri Lower Hydro Electric Project (SLHEP) reservoir which as per the Committee’s words. “May be a very remote probability but a possibility, risk exists.”

In the chapter ‘Conclusion’ in Para X, the Technical Expert Committee of Thattre & Reddy as appointed by the Planning Commission has commented about the structural safety of SLHEP dam itself.

“The sandstone, which really looks and behaves like sand rock on which the dam is founded, has also throughout the SLP planning been considered very weak. Its adequacy and competence to support the concrete gravity dam is not established satisfactory”

When the Govt’s own Technical Expert Committee (TEC) is forced to give comments about competency of NHPC Ltd., regarding reservoir management and structural safety of the dam, one cannot ignore such possible seeds of major catastrophes. We cannot close our eyes to the tragedies and catastrophes of Uttarakhand occurring because of panic opening of the sluices by NHPC Ltd. in monsoon as it happened from the 280mw Dhauligang Hydro Electric Project, a few km upstream of the confluence with Mahakali river, on the night of 16<sup>th</sup> June 2013 creating worst-ever devastating floods in the whole basin and the Kedarnath areas, compounded with other aggravating factors, resulting in unprecedented loss of lives and properties.

A Solution for Sustainable Development :

Our development mode must be sustainable as per the Govt’s vision and a DEVELOPED INDIA needs power 24x7 (not just for 4 hours). By converting the “4 HOUR PSEUDO RoR GENERATION DAMS” to true Run of the River Dams-cum-weirs, generating power continuously, the ecology of the rivers and the livelihood of the riparian people will not be destroyed. The height of the dam-cum-weirs will reduce greatly. Reservoirs will be smaller. Cost of the projects will

come down drastically. One turbine running 24 hours a day is equivalent to 6 turbines running for 4 hours in the peak load periods in lean months. After the lean months, number of turbines can run continuously as per river flow. So the generation of power will be more or less same, but it will be a continuous 24x7 generation. By converting the dams to 24x7 dam-cum-weirs, there will be no scope for panic release of the reservoir water, as the dam will get converted to a dam-cum-weir and water will flow over the dam-cum-weir naturally downstream. Ecology of the river will not be affected in the lean period and the riparian people will have a flowing river, year round.

The Peakload Shortage :

The peak load shortage of the country has come down to less than 5% in 2013-14 as per records as available. But lack of optimum transmission connectivity between various parts of the country is the problem now. Western region has power surplus of 14% while South has 22% shortage in peak load period. Also, according to Central Electrical Authority (CEA), the plant load factor of India’s thermal plants is a dismal 66.5% for 2013-14 and needs urgent upgradation of to meet shortfalls.

In this scenario, any justification that Hydro Power Projects, are generating power in the 4-5 hours of peak load period only in the lean months to augment peak load power shortage, AT TOTAL DESTRUCTION OF ECOLOGY downstream and upstream of the dam, does not cut any ice. These Hydro Power / Plants operate in the peak load period only because of the higher tariff rate for the peak load period.

The Tariff :

No one should grudge good profit for the Private Hydro Power Developers / Govt. Corporations but certainly not at the cost of TOTAL DESTRUCTION OF ECOLOGY and ENVIRONMENT as is happening now in Uttarakhand, Subansiri Hydro Electric Project, and other proposed dams of Arunachal. Tariff structure need to be restructured to a fixed tariff which is appropriate so that the Hydro Power Developers, can operate their hydel projects, as TRUE RUN OF THE RIVER, 24x7, generation projects, thereby save the ecology, livelihood of the riparian people and threat of panic release of flood sluice gates forever.

(The writer is a Ulan and Senior Citizen)

\* (To be continued)

13 July 2014 Sentinel

# The Crux of the Problem : 4 hour Power Generation Projects

*Lower Subsansiri Dam & Other Proposed Dams of Arunachal – A Sustainable Developmental Solution*

By P K Bhuyan

**SUBANSIRI LOWER HYDRO ELECTRIC PROJECT UNDER CONSTRUCTION :**  
NHPC Ltd., the Developer, proposes to release 6 cubic meter of water only i.e. no water, for 20 hours, when the project will be 'offgrid' through the Dam. Now after 8 years of start of the work in 2005, under pressure, NHPC has started trumpeting that it will keep one turbine running and release 225 – 250 cumec of water. But what is not said that the water will be released from the dam 500 km downstream from the Power House, thus killing the river for 500m. Also, who can guarantee a turbine running continuously for say 100 years? Any shutdown, for multitude of reasons, will annihilate the gangetic dolphins, India's National Aquatic Animal along with over 200 varieties of fishes, rare turtles and other biota. Subsansiri is home to these dolphins from 20km downstream of the dam upto the confluence with Brahmaputra. For survival of this biodiverse river, the sustenance water must be released from the dam directly without human control. As per the study report of Reeves & Brownell, 1989, it is stated that 450cumec of water in the lean months are needed for health of the river and survival of the dolphins.

But if the SLHEP is converted to a true 24x7 run of the river project, then the height of the dam will come down by 50m or so, the reservoir will be reduced drastically, water will flow naturally either through the turbine(s) or over the dam which will act as a dam-cum-weir, -generation of power shall remain the same but will be continuous for 24x7 and not just for 4 hours of peak load tariff. There will be no possibility of accidental or panic release of the

sluices of the reservoir in monsoon, as there will be no sluices. People will have no reason to oppose these dams then. Cost and gestation period will be greatly reduced.

People's Protests :

**PART-II**

Many people in Assam and Arunachal have now realized that if all these proposed dams are commissioned as per present RoR schemes, people will be able to cross great rivers like Lohit, Debang, Siang, Subsansiri in the day time on foot! Also, the Brahmaputra in the Dibrusaikhowa National Park. At night, a frightening transformation will take place, when thousand turbines will release water creating a tidal wave of flood that will sweep away, every night, wild life and humans alike. The impact on the Dibrusaikhowa National Park will be catastrophic. The ecological and environmental impact in Arunachal and Assam is not comprehensible.

A Summary :

"4 HOUR PSEUDO RoR GENERATION DAMS" lobby is very powerful as thousands of crores are involved and they have their tentacles of 'money powers' everywhere and will resist any paradigm change, tooth and nail. No one should grudge good profit for the private Developers / Govt. Corporations, but certainly not at the cost of total destruction of ecology, the riparian people as is the case now.

In the above context it is now an urgent necessity

(a) to convert the SLHEP to a true 'Run of the River' Project by reducing the height of the dam and allowing the dam to act as a dam-cum-weir. The height of the dam (cum-weir) can be brought down considerably from the proposed 116m thereby reducing

the size of the reservoir to acceptable levels and pressure on the weak foundation rocks. There will be no scope for panic opening of reservoir sluices as there will be no sluice. The river will flow naturally.

(b) to hold a review of all the dam projects of Arunachal, vis-à-vis suitability of location and other parameters on the basis of basin-wise cumulative study

(c) to replace the "4 HOUR PSEUDO RoR GENERATION DAMS" by 24x7 true Run of the River Dams-cum-weirs for all Arunachal Dams in the interest of ecology and the riparian people.

Let there be a paradigm change in approach by the people's Govt. of Narendra Modi through the concept of true Run of the River projects which will generate adequate electricity continuously, yet save the ecology of the river and the overall environment, and allay the genuine fears of the riparian people of huge reservoirs literally on their heads. This will be in consonance with the election speech of our Prime Minister - Narendra Modi on 22<sup>nd</sup> Feb 2014 at Pasighat, Arunachal Pradesh where he, in his 37 minute long speech, mentioned towards the end of the speech "I know citizens of Arunachal Pradesh are against large power projects. I respect your sentiment in this respect. But protecting the environmental, using technology, the hydropower can be harassed using small projects" (essence of translation from Hindi).

*(The writer is a IITan and Senior Citizen)*

\* (Concluded)