



PROBLEMS AND PROSPECTS OF HYDRO POWER POTENTIAL IN SIANG RIVER OF ARUNACHAL PRADESH

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ABSTRACT

The Siang River is the largest river in Arunachal Pradesh. It has a huge Hydro power potential of 17308 MW highest among the rivers of the state. The govt. has proposed a plan to construct mega dam to tap its hydro power potential. However, many voices has raise against it, specially the settler who are living in Siang valley and its downstream reaches in the neighboring state of Assam. The main objective of the paper is to assess the hydro power potential of Siang River and environmental hazards associated if the Mega dam is built. Another important objective is to assess the prospect and viable solution of the Mega Dam project. The paper also highlights various issues and challenges associated with Mega Dam project.

This paper is an attempt to analyze the role, importance, viable solution of Siang River Mega Dam Project which may help the policy maker to understand pros and cons of the same and also focus on major issues like environmental hazard, economic benefit, and others. The paper is based on secondary sources of data, newspaper, reputed news portal, TV interview, Journals on related topic and personal experience.

IndexTerms - Siang River, Potential, Mega Dam project, Hydro power, Environment hazard

INTRODUCTION

This paper is an attempt to highlight the problem and prospect of Hydro power potential in Siang River. Siang River is considered as the life line of the people settled in and around the Siang basin since time immemorial. It is the largest river of Arunachal Pradesh. It has an immense Hydro Power potential in the state. Several Dams and Hydro Power projects of the state have been proposed and under construction. Though it has the huge Hydro Power potential but at the same time is having environmental hazard, side effects. Therefore so many NGO's pressure group specially those downstream settler including the state of Assam are vehemently oppose of any implementation of Hydro Power over the Siang River known as Brahmaputra in Assam. The state govt. are in dilemma on the said river as it has a huge hydro power potential to tap which can generate income and employment opportunities for the people of the state but it has comes at a huge price of environmental side effects. So, the need of the hour is to find a viable solution which may lead to the path of development without harming much to the environment and the sentiments of the people. So, the main aim of this paper is to highlight the problem and prospect on the basis of secondary source of data, newspapers, reputed news portal, interview, journals on related topic, internet (Wikipedia) and personal experience

OBJECTIVES OF THE STUDY

1. To assess the hydro power potential of Siang River.
2. To highlight the problems of environmental hazard relating to hydro power project over Siang river.
3. To assess the prospect, problem and viable solution of hydro power project in Siang River.

SIANG RIVER PROFILE

The mighty Siang originated in Tibet and it is called Yarlung Tsangpo when enter Arunachal becomes Siang. It is a Tran's boundary river which flows through Tibet, India and Bangladesh. It is the 9th largest river in the world by discharge and the 15th longest. In Arunachal it enters at Upper Siang district, then Siang district and East Siang. The river is 4696 km long in term of its total length from the point of its origin up to where it merges with the Bay of Bengal. The average depth of the river is 140m (450ft) and maximum depth is 370 m (1200 ft). The average discharge of the river is about 19,800m³/s and floods reach about 100,000m³/s.

RIVER MAP (Upper Siang and East Siang District of Arunachal Pradesh)



In term of hydro power potential Arunachal state as a whole, as per the study carried out by the Central Electricity Authority (CEA) and individual power developers, the total hydro power potential of the state is estimated at over 57000 MW. Besides this the estimated potential for development of Micro/mini/Small hydro projects is around 1600MW. Therefore Arunachal Pradesh has emerged as the front runner state of the Union of India as far as hydro power potential is concerned.

Table No. 1 Hydro Power potential of Major River basins of Arunachal Pradesh

Sl.No	Name of River Basin	Prob. Hydro potentials in (MW)	Prob. Hydro Potentials Allotted to CPSUs & Private Power Developer (in MW)
1	Tawang	2057	1982
2	Kameng	6183	3602
3	Subansiri	12248	125
4	Dikrong	410	200
5	Siang	17308	5610
6	Dibang	10977	8387
7	Lohit	7679.5	5816.5
8	Tirap	140	

Source: State Mega Hydro Electricity policy 2008

Table No.2: Siang River Hydro Power Potential

Sl.No.	Basin	Name of Hydro Electric Projects	Probable IC (MW)	Alotted to	Probable IC (MW)
1	Siang	Yamne Stage-I	60	Abir Const. Pvt Ltd.	60
2	Siang	Yamne Stage-II	60	Abir Const. Pvt Ltd	60
3	Saing	Simen	21	Satyam (North East) Hydro Power Ltd.	21

Source: State Mega Hydro Electricity policy 2008

Siang River has a estimated total hydro power potentials of 17308 MW. If tap all of state hydro power potential then Arunachal Pradesh could become the power house of India which may help to generate income and create lakhs of employment opportunity. Seeing the opportunity the state govt. has propose to build Mega Dam of 10000 MW capacity which could benefit through its 12% free power share that comes to about Rs.2400 crore per annum as revenue. Another Rs.200 crore per annum will be added through its 1% free power share which will be used exclusively for local area development. The proposed project is estimated to be 300 meter high dam with power generation capacity of 10000 MW. Being a multipurpose project it will moderate flood and erosion providing relief in downstream river reaches of Arunachal Pradesh and Assam.

ISSUES AND CHALLENGES

Despite its potentiality hydro power project has a series of issues and challenges as follows:-

1. Opposition by various NGO's and pressure group: So many pressure group have vehemently oppose the hydro project specially Siang Indigenous Farmer Forum (SIFF) has opposed the project and stated NITI Aayog has decided to merge Stage-I and Stage –II of the power project over river Siang which will submerge over 100 villages and affect lakhs of people and their livelihood in Siang River valley in the state as well as in downstream areas of Assam. SIFF General Secretary Tasik Pangkam said, "The people of Arunachal Pradesh were deceived by NITI Aayog. BJP led govt. in Arunachal Pradesh had also supported the NITI Aayog's decision for petty political interest". He further added that, the Siang River is the lifeline of Adi people living in the Siang Valley of Arunachal Pradesh. Since time immemorial, the Siang River is attached with the Adi people their culture, history tradition, folk literature and everything".

2. Assam opposes Mega Dam on Siang River: A day after the central govt. announced plan to construct a dam on the Siang River in the state. Assam former Chief Minister Lt. Tarun Gogoi clearly said that, he will not endorse any project not benefiting the people at large. He asserted that hid govt. was for the welfare of the people and it would not endorse any project which will not benefit them.

3. Environmental Impact: In 2010, student organization appealed to India's environment Ministry to scrap various hydro electric projects (including Siang Project) in Assam and Arunachal Pradesh due to potential adverse environment impact. However, the ministry remarked that though the projects will not be cancelled, necessary precaution will be undertaken to ensure minimal environment impact.

4. Siang A Flood Prone River: The River Siang has time to time flooding it's left and right bank especially in East Siang District of Arunachal Pradesh. On 11 June 2000 catastrophic flood discharge passed through Pasighat where Siang debouches to the Upper Assam plain in India. As recent as Sept. 2020 Mebo- Dhola road, the lifeline of Mebo area has been washed away by the rampaging Siang River.

SUGGESTION/FINDINGS/CONCLUSION

No doubt Siang River has an immense hydro power potential yet it has not free from hindrance as there are so many issues and challenges for the state govt. to actualize the hydro power project. The State Govt. needs adoption of middle path to tackle the issues. Followings are the few suggestions as follows:-

1. Since setting up Hydro power is the need of the hour in order to bring development in the state. Therefore, all together scrapping of the same due to environment hazard should not be a wise decision so it is better to minimize the capacity of the Mega Dam proposed so that minimum damage may occur. Even if there's any untoward incident happen.
2. There should be a proper relief packages and compensation for the people who are settled in flood prone area and may going to suffer out of the setting up of hydro project or already who loss land because of Siang Flood.

3. If possible, without setting up a Mega hydro project over Siang River it is better to set up smaller hydro project in the tributaries of Siang river like Yamne, Siyom etc in order to avoid large scale catastrophic flood and at the same time generate electricity from the same sources.

Lastly it will not be easy task to built Mega Dam over Siang River without taking the confidence of the people of the stakeholder, therefore it is the duty of the state govt. to convinced the people so that the project will see the light of day and making the state highest revenue earner of the nation out of its huge hydro power potential.

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