

River Governance In India - Dominance Of Technocratic Engineering And Centralization

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Abstract: *Present Indian governance approach towards its rivers has been predominantly bureaucratic and technocratic in nature. This approach is top heavy, contingent and non participatory in its implementation. There is a lack of long-terms perspective and critical evaluations of the policies which are adopted for governance of rivers, dams and flood management. Traditionally this topic is not considered as part of politics and has often been assigned to the domain of engineering experts. But as the ideology of development is gaining ground and large hydro-electrical cum irrigation projects are impacting the lives of common people this cannot be excused from the inquiry of politics and critical analysis.*

I. INTRODUCTION

Present Indian governance approach towards its rivers has been predominantly bureaucratic and technocratic in nature. This approach is top heavy, contingent and non participatory in its implementation. There is a lack of long-terms perspective and critical evaluations of the policies which are adopted for governance of rivers, dams and flood management. Traditionally this topic is not considered as part of politics and has often been assigned to the domain of engineering experts. But as the ideology of development is gaining ground and large hydro-electrical cum irrigation projects are impacting the lives of common people this cannot be excused from the inquiry of politics and critical analysis. This is what Partha Chatterjee has described “politics by other means” by which state gives its developmental logic to determine the fate of its citizens without having to face the democratic apparatus by hiding development under the garb of technical issues.

II. BIHAR CLASSIC CASE OF FLOOD CONTROL FAILURE

India since colonial rule had a fascination with engineering driven huge dam and barrages. It was in the 1850s the British undertook the ambitious project of the embankment

of a section of the Damodar river, west of the colonial capital Calcutta (now Kolkata) to protect a new railway line. However, due to the inability of embankments to prevent floods, they were demolished within a decade of their construction. Following this, the idea of embanking the rivers received official opposition, which did not last long. In 1953, the embankments gained favor once again after a devastating flood hit the Kosi. This led to public pressure for the government to act. The government initially decided to build a dam but the idea was rejected due to financial infeasibility and the proposal to construct embankments was given a go-ahead. This decision ignored the serious problems which the embankments can cause, which was very well pointed out when engineers from India visited the Yellow River in China and the Mississippi in the United States to assess the feasibility of embanking large rivers.

After independence Indian west educated elites further increased this process under leadership of Jawaharlal Lal Nehru. He cherished large dam building projects as a mark of modernization and industrialization for a predominantly agricultural community. In this context problems of floods in Bihar (especially Kosi) was formulated and projects to counter the floods were sanctioned. Eklayva Prasad points out that despite decades of investment in Bihar on building embankments to tackle the floods the problem of floods has further increased. Since the 1950s 3700 kilometres of embankment have been constructed in North Bihar but

ironically the area affected by floods keeps expanding. This happens because river as a living system brings silt and this gets trapped by an embankment which gradually elevates riverbeds. This elevation of the riverbeds enables water to breach with greater ferocity. The river in this region enters from Nepal with very steep gradients which causing massive silt erosion and then it flattens in the floodplains of North Bihar. This leads to the disposition of heavy sediment loads which choke the channels which are supposed to reduce the flooding. In August 2008, the massive Kosi river flood hit the state. The flood that engulfed half the state and is considered to have caused the highest damage in the five decades of flood history in Bihar was the result of an embankment breach in Nepal. Post bifurcation, Bihar has become the most flood-prone area in the country in terms of percentage of land susceptible to flooding. The total flood-prone area of the state is 68.80 lakh hectares which accounts for 73.06 percent of its total geographical area and 17.2 percent of the total flood-prone area in the country. Bihar falls under the flood zone of the Ganga-Brahmaputra basin and its location coupled with hydrometeorology, hydrology, geomorphology and topography makes it one of the worst flood-affected regions in the world. Indian present approach towards this natural disaster has been haphazard and failed constantly in the course correction.

Dr. Dinesh Kumar Mishra who has dedicated his life to understand the floods of Bihar while doing research in the rivers of the Ganga basin has been neglected by the state and central while formulating the flood control programme. He has been advocating for the adoption of community led resilience to the floods instead of relying on present infrastructure –heavy flood control measures. Dr. Mishra's lifelong work has questioned the efficacy of embankment policy which has been followed over seven decades to reduce the problem of floods. He points out that embankments often trap water which leads to water-logging and disconnect rivers from their natural flood plains. He authored seminal books on the region's hydrology, including *"Trapped! Between the Devil and the Deep Waters"* and *"Bagmati Ki Sadgati"*, which detail the historical shifts of rivers like the Koshi and Bagmati.

III. GOVERNANCE OF THE CENTRAL WATER COMMISSION

Indian water governance is fragmented which has been one of the main reasons for its failures. The bodies like Jal Shakti, CWC, CGWB, CPCB and NWDA lack proper coordination with each other while designing the policies and framework of water governance in India. It would not be exaggeration to say India has no guiding principles and philosophy in the sphere of water governance. Present Indian approach towards its water governance is the legacy of colonial rule which now has been transformed into the ideology development. This development can only be attained by constructing huge dams with twin capabilities of electricity generation and irrigation.

Indian the central water commission (CWC) is a body which has been given the responsibility of water governance in India. The CWC is has faced the criticism for excessive

focus on the construction of large dams and neglecting the broader issues like hydrology, catchment area protection, flood forecasting and dam safety. Central water commission has no vision regarding ground water management and problem of water pollution. Groundwater has now become the major source for majority of the population for their drinking and irrigation needs. The excessive focus on the dams as the panacea for all the water related needs has ensured the neglect of local water systems, rivers and wetlands. This has further deteriorated the groundwater level and the quality of ground has also becoming toxic.

Himanshu and Harsha points out that despite the passage of the Water Pollution Act (1974) there is a constant deterioration in the quality of rivers and aquifers. Even establishment of Central and State Pollution Control Boards failed in stopping the pollution of water bodies and aquifers. These intuitions function on the same centralized and non participatory methodology as the Central Water Commission has been functioning in India. Himanshu assert that the CWC has not been reformed since its start and even the recommendation of the Mihir Shah Committee was not accepted too. Even the formation of the Central Ground Water Authority in 1996 for regulation of groundwater has not been successful in improving the water governance in India. Presently the civil engineers are dominating in the organization of central water engineering services which makes this organization blind to understanding the importance of water cycle and holistic approach to water management. Presently the civil engineers dominated organizations have not been able to understand the ecosystem in which water is embedded without which sustainable use of water is not possible.

IV. FAILURE OF CENTRAL WATER COMMISSION-

Himanshu challenges the credibility of Central Water Commission (CWC) by pointing out that the CWC has failed over the years in devising the criteria of arriving at the "benefit –cost ratio" of thousands of dam projects. Himanshu asserts that CWC should have devised an objective methodology for calculating "benefit –cost ratio" of dams and making that assessment in the public domain. Because it is the fundamental right of the citizens and civil society of India to know what is the "benefit-cost ratio" of the various water projects approved all across India. This would help the society in realizing the real cost –benefits of the projects like dams and canals on the nature, local community and country at large. If assessment of projects doesn't factor in social and environmental costs then that assessment cannot be called scientific. Himanshu points out that very often engineers of CWC are able to pass the buck by pointing out that the water is a state subject and the CWC is a merely advisory body. Whenever there are floods this advisory body protects the dam's operators by stating that dams had a minor role in the floods without even revealing the nature of application of rule curves by dam operators and the efforts made by them on the basis of floods forecasting. Himanshu assert that without putting these two documents on the public domain how the CWC can given any dam operator in a river basin which faces

flash floods a clean chit. Even CWC has failed in providing the data regarding the silt-deposition in different river basins of India. Himanshu provides the example of the July-Aug 2023 floods of Himachal in which out of 23 HEPs only 2 HEPs Kol Dam (Bilsapur) and Karcham Wangtoo (Kinnaur) followed dam safety norms and guidelines of the NDMA and CWC. What action has been taken on these HEPs which neglected the guidelines and further exacerbated the devastation caused by the floods?

V. CRITICAL ANALYSIS DAM SAFETY ACT 2021

The *South Asia Network on Dams, Rivers and People (SANDRP)*, a leading environmental think-tank tracking water infrastructure raised critical questions on the sincerity of the Dam Safety Act 2021. SANDRP points out that there is pendency of mandatory safety assessments of approximately 5000 dams out of total 6500 large dams in India. But National Dam Safety Authority has till now audited only 1853 large dams which still leave large chunk of downstream population under the constant threat of floods. This act fails in ensuring the accountability of the negligent operators. The NDSA guidelines have been successful in ensuring the accounting the physical damage, but leave the criminal or bureaucratic liability against the negligent and erring officials. The DSA envisions institutions but these institutions have no place for independent members. This act fails to ensure that all the information related to dam safety will be provided in the public domain. If transparency is to be provided then it is essential that all reports, minutes and agendas of the committees should made public. This act fails to institutionalize “dam break analysis” every five years. The dam break analysis can give a fair idea of the damage that would happen in case the dam breaks. This process needs regular updating along with data of downstream river carry capacity, inundation maps and early warning systems. All the data needs to be accessible on the public domain.

The CWC which has a very poor and unresponsive track record has been designated as the focal institution. The DSA fails to factor in the impact of reservoir siltation which directly impacts the flood-cushioning capacity of the dam. The siltation hampers the storage areas and operators chose to make use of monsoon as an excuse to release massive quantity of water to flash out the silt. This often creates severe flooding in the downstream areas. Another important thing which the Dam Security Act misses is the process of decommissioning of Ageing Dams because India has thousands of dams that are over 50 to 100 years old. SANDRP points out that the DSA focuses one-dimensionally on only maintenance of the dams without having any clear legal framework for phased decommissioning of ageing dams.

VI. FEDERAL AND STATE FRICTION

Dam Safety Act 2021 has provided a federal framework for the safety all across the country. The DSA has created a new regulatory and institutional framework at the centre and state level. It has clearly identified different mandatory

processes and procedures to be followed by the national dam safety authority (NDSA), state dam safety organization (SDSOs) and the dam owners. NDSA will functions according to the recommendations of the National Committee on Dam Safety. This also provides specific obligations in the times of emergencies and natural disasters upon the dam owners and SDSOs. Dams which are central public undertaking and inter-state projects will be regulated by the NDSA. SDSOs are responsible for safe operation of all other dams which comes under its jurisdiction except the two types mentioned before. The NCDS is the supreme body in the dam safety governance and has been given the mandate to recommend necessary regulations for dam safety in the country. This committee includes state representatives and independent experts to provide inputs from the states and independent experts. The centre enjoys the complete prerogative of including states in this committee. This act allow union executive to change the functions of this statutory bodies with mere executive fiats which clearly violates the federal structure of governance. This committee had predominance of bureaucrats and engineers. The primary argument of states is that the water comes under the State List, and it is therefore unconstitutional to create a law on the name of dam safety which misappropriates the rights of the states over their natural resource. The Union government has justified the Dam Safety Act under the entry 56 of the Union List but that is meant for the development of inter-state rivers valleys which will declared by the parliament of national interest. States allege that this act has given overreaching powers to the central by which centre is taking control of the dams which are within state borders.

In the times of globalization when centre is forcing states to become self independent then it will raise the question of centre's appropriation of state's natural resources. Rivers has been historically owned by the centre on the name of developmental projects like Pong Dam, Bhakra Dam, Sardar Sarovar Dam and North Koel Reservoir has been owned by the centre and various other projects operated by the central corporations. Many of these projects have been functioning from several decades and the royalty offered to them has been stuck at 12 percent. Chief Minister of Himachal Pradesh Sukhvinder Singh Sukhu has been very vocal in raising the question of increasing the royalty of the various hydro-electric projects operated by the central corporations and BBMB. He has raised the question of transferring the ownership of Hydro-electric projects which are more then 40-year-old and debt – free hydroelectric projects back to Himachal Pradesh.

VII. CONCLUSION

There is the need to reduce the domination the engineering centric approach and adopt a more ecological centric approach towards to the governance of rivers. The CWE has failed over the years to devise a holistic approach towards the water governance in India and there should a critical appraisal of its functioning since its formulation. There is a need to coordinate the functioning of the various institutions which are integral part of the water governance of the country which are presently functioning in their silos.

There is the need to provide access to public regarding the various policy documents and there should be an institutionalized feedback from the NGOs like SANDRAP which are working in the field of water governance. India needs a more federalized, participatory and ecology sensitive approach to preserve and cherish its rivers and other sources of water.

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