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Water and Forests Management in Colonial India.

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Abstract:- Natural resources have always been the basis of human civilization. Be it the Bronze Age civilization developed on the banks of a river valley or a tribe living in the forests. This is the reason why all the empires of the world have tried to control them. Water and forests are very important among these natural resources. These are such sources which are the basis of livelihood of the local communities as well as an invaluable asset for the government. In Indian history, various kings have tried to control them by managing forest and water resources. The foremost among them was the British rule that ruled India. On one hand, it implemented many irrigation, river, canal, dam and multipurpose projects for water management and on the other hand, to establish dominance over Indian forests, it divided the forests into reserved, protected and rural forests. In this article, we will discuss about the water and forest related projects implemented by the British government, which not only affected the local community, animals and environment, but their impact is also visible in the policies made in the present times.

Keywords:- natural resources, forests, river, dam, canal, multipurpose projects, timber, conservation, protected, reserved, famine, drought.

Introduction:-

From a position of abundance in the ancient time to scarcity in colonial era, India has assumed as very low percentage in forest cover. Expanding urbanization, increasing population pressure, development in industrial technology, need for a good standard of life has disturbed the harmonious relationship between human and natural resources. The uses of Forest's resources have been a tendency to see in the colonial rules as an ecological watershed. The colonial rulers implemented an aggressive industrial capitalism. they much damage to the forest covers for their industrial needs. The changing pattern in the utilization of water and forest resources, change the man- nature relationship over a period of time .

In India, the state played an important role in water resources management since ancient times. The state has been managing river and canal development and irrigation system. But these water resource management were very backward from the technical point of view. Modern and efficient water resource management was started by the East India Company and the British government. New techniques like dams, barrages, modern canal system, anicuts and multi-purpose projects were started. The main objective of starting the water management system by the British government was to increase its revenue by developing agriculture in India.

Forest management in India more important for east India company. Because many development in India and Britain depends upon commercial wood such as:- development of railway in India, bridge and house buildings, ship building industries, making of coal from wood and speeding up the industrial revolution in Britain. As the importance of forests, colonial rulers implemented many forest protection and conservation policies and acts for capture these natural resources.

Water

Background:- earliest societies have many water resources for use that is draw our attention to it. An agriculture system was the pillar of economy, that why all the great empires pay attention on development of the irrigation system. During the indus valley civilization facility of irrigation for settled agriculture is established feature. Mauryan kings developed Sudarshan lake for development of irrigation system in semi-arid zone at the foot of mount girnar in sourashtra. In the south india, the cholas constructed a grand anicut at the kaveri river for agriculture.

In the medieval india, there was enough water for use of agriculture. Main feature in this period that is construction of canal. river water can be transported to dry areas through canals, so that there agriculture can be developed. Firuz shah tuglaq was known for a great canal builder during the delhi sultanate. During that period in the south india vijaynagar empire flourished by the prosper agriculture system. Vijayanagar emperor controlled over Krishna and tunbhadra river in north to kaveri in the south. They construct canal and developed irrigation system that help to prosperity in agriculture and revenue growth. Mughal emperor provide loan to peasant for install irrigation facilities by own effort. Shahjahanabad, The capital of Mughal empire was located at the bank of Yamuna river. There was enough water to supply in the capital city, that's why the city always prosperous.

The colonial era:- british ruler introduced new method and technologies in existing systems for example they spread the existed river and canal network and upgrade it. They constructed modern irrigation facilities like dams and barrage in the riverbed for divert the water to canal and the canal takes the water to the place where it was required.

The formation of the Public Works Department (1855) during Dalhousie's administration after that Irrigation works were carried out . Such works were carried out particularly in the Western Provinces, North India and Madras. The first irrigation project carried out by the East India Company. the renovation of the Western Yamuna Canal (1821) and the Eastern Yamuna Canal (1830). The (Upper) Ganges Canal (1854) was another monumental work carried out by the East India Company. Its explicit purpose was to combat drought and famine.

In 1856, The Bari Doab Canal was constructed in Punjab. Smaller irrigation works were going on in Rohilkhand and Doon. While these works were being carried out in northern India, in the Madras Presidency in the south, older irrigation projects were in carried out in the deltas of the Kaveri (or Cauvery), Godavari rivers and Kistna (or Krishna). Sir Arthur Cotton was a pioneer of modern irrigation works in India during this period (1853). He completed the Godavari 'Anicut' (dam).

During the drought and famine, it was necessary that development of irrigation system, which was protect against crop failure. Many protective irrigation work had to be done by the britishers like:- the nira canal, betwa canal, rishikulya canal etc.

Water management policy:- during the colonial era irrigation policies were introduced by the famine and irrigation commissions. The first famine commission in 1880 was recommended that the state directly introduce the irrigation works and schemes. The first irrigation commission in 1901 was recommend that state renovate the existed dilapidated irrigation system and launch new schemes. By the 20 year plan many works had been initiate. Tank irrigation project introduced in south and central india. Tubewell irrigation project implemented in uttar Pradesh and western india.

In the 1930s, multi-purpose river valley development(MPRVD) type new hydraulic principle introduced in india. It was inspired by the Tennessee valley authority in the USA. That new technique

focusses on all over river basin and rivers diverted and interconnected to dams and reservoirs. Its help in irrigation in dry zone, navigation, flood control in river's over flow area and electricity generation.

Colonial government approved MPRVD schemes during 1943-1946 on Mahanadi, Kosi and Damodar rivers. For implementing the scheme government frame a professional bureaucracy central water, irrigation and navigation(CWINC). Finally, after the independence Indian government setup Damodar valley project in 1948. It was the first multipurpose project in india.

Forest

Background:- we saw a huge progress in agriculture land in forest area both northern India and peninsular India river valley region such as :- Krishna, Kaveri ,Godavari and vaigai from 500 BC to 300 AD. Large scale agriculture meant large production of surplus. Which gave the way to tribal chiefdoms to establish a big state. By the exploitation of forest resource Mauryas, Kushans, chalukyas and Sangam Cholas built a great empire. Ship, boats and better weapons of war built out of the forest wood. Elephant forest more important for rulers which provides elephant and wood also. Gradually the number of towns were increase, building of houses were increase so wood much need as before. Therefore, state more control over forests.

Gupta period in symbol of decline in town, trade and monetary system. In this period begin the process of ruralisation of economy and thus a great pressure on agriculture and forest. For relies the on agriculture, deforestation process taken place in large scale.

During the Delhi sultanate we saw growth in many areas like urban population, livestock, cities and town. All these led to increase in demand of fuel, fruits, food , wood etc. the sultanate ruler didn't give much attention to positive policy of forest conservation, although we saw they set up garden in many cities.

The increase in population and urbanization during Mughal India, the importance of forest was increase. The forest of Agra, Allahabad, Sind, the eastern ,the western ghat and Bengal supplied forest's raw material to Mughals. The forest also source of non- agrarian product for Mughal empire. The ruling class of Mughal were also promoting forest for need of luxury products like mulberry silk, tanning lather, production in lac, herbs and fruits.

The Colonial era:- the colonial period symbol of change in man-forest relationship. Now the pressure on forest to complete the demand of India and also British raj. In the colonial rule ruthless exploitation of forest is main element of man-forest relationship. First time the forest exploitation process by agency. British raj had not interested in the development of India. Now the forest is source to the requirement of proliferation colonial economy. Ship building and timber industries had risen in Britain and Indian teak wood had permanent source of it. Surat dockyard famous for ship building and Malabar ghat known for teak import in to Britain. The agrarian policy of British raj was work to the destruction of forest. Now the forests in India consider as a hindrance in growth in agriculture. For the growth of agrarian revenue and cultivation it had necessary to remove the forests. The development of railway in 1853 was prompt to deforestation process. destroyed of greater amount of forests in manufacturing the railway sleepers. The sub Himalayan forest of kumaon and garhwal were main source of development of railways. these Himalayan forests also completed the demand of raniganj coalmines to make fuel requirement for railways.

Due to such a large-scale deforestation, it was natural for the local people to revolt. To deal with these revolts and in the name of forest conservation, British raj passed many acts whose main objective was to drive the local community away from the forests, manage the forest to fulfill British interests and control over the forests.

Forest policy:- in ancient and medieval India, the forests had to be exploited without any comprehensive forest policy. the first forest policy was laid the foundation by the British rulers. The main motive of these policy was exploitation of forest for industrial and commercial use in the name of conservation of trees, flora and fauna were founded in these forest.

Establishment of the forest department:- the governor-general of India lord Dalhousie demanded the forest department to assured of sustainable supply of timber for the railway sleepers. In 1865, imperial government established The Imperial Forest Department and a German botanist named Dietrich Brandis was appointed as the first inspector general of forests.

First Indian forest act 1865:- this act authorized the forest officials to release local rules for protecting and conserving Indian forests. This act that give monopoly over forest to state. Its main motive was control over those area that had been allocated for the railway supplies. That act established the right of the state to the forests.

Indian forest act 1878:- the first Indian forest act of 1865 had been implemented in an unsystematic manner and that's why many loopholes in act. To frame a new act, a conference of forest officers was held by Brandis in 1875. During that conference there had three ideologies emerged :-

- The pragmatists:- the state control those forest, which is ecologically endangered and deliberately important. Rest of the forest, manage by the communal system.
- The populist:- this ideology completely against the intervention of state in forest. They favour tribe and peasant to sovereign right over woodland.
- The annexationists:- they wanted to all forest areas completely controlled by the state.

Finally, matter had resolved in favour of annexationist. The main proposals were explained in memorandum of Brandis (1875). It was formed the base of Indian forest act 1878. It categorized the forests into three variety:-

- **reserved forests:-** these types of forests completely controlled by the state . all the private forests transferred to the government and in exceptional situation or limited exercise to be allowed.
- **Protected forests:-** the forests also partly controlled by the state. In limited area people were allowed to collect fuel wood and minor forests products. In these types if forest state reserves the specific tree species.
- **Village forests:-** these types of forests under the control of village as they were used by their inhabitants.

New legislation empowered the state and provide right to control over forests. If anyone violate the rule state can be right to impose the penalties.

Forests act 1894:- a circular was formed by the British government in 1894 to basis of future forests policy. This act provides the benefit of the taxpayer and people who living in the periphery of the forests. The negative aspects of this act were state priorities the agriculture over forests. It's simply means whenever demand for expansion of cultivated land then forest can be relinquished without any hesitation. In this act forests classified in four category:-

- Preserve Forests on hill slopes, these types of forests important on climate and physical ground.
- Second types of forests full of valuable timber. It was used for commercial purpose.
- Minor forests:- in these forests fulfill the requirement of local dependent community such as:- fuel, timber and other forest's products.
- Pasture lands:- cater the need of the local community.

Besides these categorization of forests, state also promote the institute that was encourage the research on better utilization of forests resources. In 1878, a forest school was established in Dehradun. It was known for the training of forest rangers.

Indian forest act 1927:- this act was outcome of amendment of forest act 1878. It was the first comprehensive legislation under British rule. This act was established a many law related to the forests, the transits of forest's product and levied on forest product and timber. The main feature of act 1927 was:-

- It increases the right of state to categorized the forest into reserve forests, protected forests and village forests.
- The state has to right to divide the forest product in timber and non-timber.
- If state law was violated, state can be imposing the penalties.
- State officials can regulate and formalized the duty and forests.

Conclusion:- Thus, we conclude that, From ancient India to medieval India, different empires arranged irrigation through canals and rivers in their areas. But the British Empire was the only government in India that developed an integrated system of canals and rivers across India whose main objective was to provide relief from famine and drought and to increase the government revenue. The British rule connected many rivers of North and South India through canals. Dams and anicuts were constructed on the main rivers to transport water from one place to another. Apart from this, flood management, drought management and

power generation work was also done through the Modern River System Multipurpose Project. Although all these developments fulfilled the imperialistic interests of the British government.

All these British forest policy followed the utilitarian goal in the name of conservation. By sacrificing the interests of India and welfare of people, British extremely exploited the forests and local people's right. British raj promote agriculture for generate more revenue and expand the agricultural land by deforestation. The forest policy and its management had many flaws in policies for example:- there was no provision to protect the customary right of local and tribal community over forests, no rule and regulation for increase the forests area. The forest research institute was setup by the state but there is no action to be taken for upgradation. We can see the negative effects of the British forest policies, that even today the density of forests in India is about approximate 24 percentage, which is much less than the international standard of 33 percentage.

But the British policy itself became the basis of forest conservation, wildlife protection irrigation and river projects in India after independence.

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