Chapter VIII

CONSERVATION AND MANAGEMENT OF CHITTAURGARH DAM
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The term conservation means ‘hoarding’ or to control supply of goods in such a way that some part is left for the future. This term is derived from two Latin words con (= together) + servare (= to guard). Thus, conservation means ‘to guard together’ or ‘to keep together’. In ecology, it is derived from ‘conservares’ given to the British officials in India appointed to look after the protection of natural resources.

Conservation has been defined as the management for the benefit of all life including human kind of the biosphere so that it may yield sustainable benefit to the present generation. While maintaining its potential to meet the needs and aspirations of the future generation for thus livelihood. Conservation has three specific objectives –

a- To maintain essential ecological process and life support system.

b- To preserve biological diversity.

c- To ensure that any utilisation of species and ecosystem is sustainable.

Conservation therefore makes important contribution to social and economic development. Late prime minister of India, Smt. Indira Gandhi emphasised our ancient care, conservation and worship of trees and animals while launching the world conservation strategy in India on 6th March, 1980. In her own words “the Indian tradition teaches us that all forms of life, human, animal and plants are so closely linked that disturbance in one gives rise to imbalance in the others.”
India is a developing country therefore, artificial resource like dam conservation is quite different here. High rates of human polulation growth, along with the poverty, poor educational opportunities and a heavy dependence on subsistence agriculture are placing unprecedented pressure on natural resources. Enforcement of laws to protect natural resources typically is generally lacking. Finally government of India is struggling just to feed its people is unlikely to place much of a premium on programmes to save its natural resources. A strong nexus exist among politicians, greedy businessmen and bureaucrats because of which ecologists and natural resource managers are not able to apply all the proper and accurate conservation strategies.

**Conservation strategies:**

Chittaurgarh dam has been subjected to indiscriminate exploitation. While abiotic and biotic conditions of the dam indicated a possibility for better propagation of fish and aves and development of ecological principles based ecotourism. Therefore following strategies should be taken for better conservation of the dam.

- Improvement of socio-economic status of villagers.
- Ecotourism perspectives of chittaurgarh dam.
- Protected areas.

**A. Improvement of socio-economic status of villagers:**

Generally the villagers living surrounding the dam are fishermen and farmers. The socio-economic condition of fishermen and farmers influences the utilisation and development of fisheries sources and canals talk about the low stage of development of fishermen and put forward various reasons for it. We generally forget the root cause of it that is
under backwardness of fishermen community. Our fishermen are mostly ignorant, superstitious, conservative and chronically poor. They live in subhuman conditions among misery and ill health. Crafts and gears which they use are generally primitive, inefficient and wasteful. The producer has no control over his product as he has to sale his catch to the middle man at a very cheap rate and to whom he is indebted and who has advanced him necessity of life that is money, gear and craftate.

Considering above points, uplift of fishermen community is the first and foremost problem of fisheries development. While fish fauna of the dam indicated a possibility for better propagation and yield, but the fish production was extremely low. On the basis of above findings, following recommendations were made for better pisciculture and conservation of life and water of the dam.

(a) For Fishermen:

(i) *Fishermen society:* A society of fishermen of the area should be organised to protect the right of fishermen and also to improve the management of the dam. Under the guidance of the society, time bound fishing, stocking of fingerlings and nutritional condition of the dam will be improved.

(ii) *Training of fishermen:* Training camps to acquaint the fishermen with scientific technology of fish culture and induced breeding of fishes should be organised time to time.

(iii) *Use of improved fishing implements:* Improved and mechanised implements should be used in place of traditional implements to avoid the destruction of fish fauna (eggs, fingerlings).
(b) For the dam:

(i) *Installation of sluice gate:* To check the free migration of fishes, the installation of regulator near first sluice gate at the in flow point is recommended.

(ii) *Regular fishing:* Regulated fishing to protect brooders, spawn fry and fingerlings in definite periods, in place of unregulated fishing, will lead to the enhancement of the production.

(iii) *Control of aquatic weeds:* Aquatic weeds with negative role in the development of the culture in chittaurgarh dam should be controlled biologically and removed regularly. Submerged forms may be controlled by introducing grasscarps.

(c). For fish culture:

(i) *Protection of breeding grounds and Collection of eggs:* Breeding grounds of the carps adjacent to the dam should be protected from agricultural use by local farmers. A river is in close vicinity, so the spawn and fingerlings may be collected from the river for stocking in the dam.

(ii) *Control over the species:* Selection of genetically improved varieties will increase production. Indian carps and exotic fishes cultured together (Polyculture) can enhance the fish production due to complementary food habits that would make better use of food materials present in the dam and also ecological potential.

(iii) *Development of nursery ponds:* Construction of nursery ponds near the dam will help in stocking fry and spawn. After rearing them for one to two months, selected varieties can be stocked in the dam. This will help in improvement of fish stock of fast growing carps fishes which ultimately
yield high production. The selected species and improved varieties can also be collected for stocking in the dam.

**(B). Ecotourism perspectives of chittaurgarh dam:**

Travelling or tourism history is as old as the history of mankind. Tourism has been a life time concern of all Indian people. Today tourism is a fast growing sector in whole world in general and India in particular with growing pace of economy. Now it has been recognised as a major industry in Government and private sector.

In ancient India, the people desirous of increasing their knowledge and untiring efforts to discover the world around them, lead them to travel for even a larger and greater distance even at the risk of their lives. Not only Indians in their own country and beyond, but the foreign tourist also opened the different doors for travelling. The travelling by foreigners was under the interest of economic and commercial exploitation beyond religious concerns and consideration. Today, the tourism has a very close relationship and a factor of undeveloping international understandings and friendship. It is being exploited for creating more brotherhood sense with in the international communities. The men travelled for a change or other reason to the longest distances, which resulted its shifting to the newer place and countries. Historically it is a fact that Romans were first pleasure travellers in the world up to fifth century. The beginning of 18th century witnessed a new turn in the tourism concept when the man stared travelling for the sake of nature appreciating the beauty of hills, mountains and other natural monuments.

With the advent and advancement of industrialisation, growing economy, the concept of modern tourism came into existence. It was by
new efficient transport and communication system. With the introduction of currencies and passport system in tourism industries there has been many fold enormous development of tourism both nationally and internationally. The luxurious hotels, Dharamshalas and SARAI came into existence. The states or governments, during their night halts provided the protection for tourists. Later on the potency of tourism regarding securing the international co-operation, understanding the peace between the nations. As it has great values for social, educational and cultural importance. From the time immemorial India is a land of cultural heritage, colourful customs, green hills, forts, places, rivers beaches, wetlands, varieties in foods, archaeological, architectural, anthropological interests and also varieties of festivals. In broader term the tourism can be classified in to following categories.

(i) Religious tourism or pilgrimage: Visiting temples, towns, cities etc.
(ii) Social tourism: Visiting places attending different celebrations.
(iii) Cultural tourism: Visiting festivals, historical places, monuments, fairs etc. and performing art activities.
(vi) Hill tourism: Visiting hill areas of mountains with scenic beauties.
(v) Adventure tourism: Tracking, rock climbing, mountaineering, skiing etc.
(vi) Wild life tourism: Visiting park and sanctuaries, areas of exotic and endemic flora and fauna, birds sanctuaries, natural reserves.
(vii) Eco-tourism: Visiting the places of natural scenic beauties, rivers etc.
(viii) **Conference tourism:** Attending seminars, symposia and conferences *etc.*

The success of these tourism is very much dependent upon certain infrastructure or facilities which are known as “pull factors” and “push factors”. These factors can be enlisted as follows-

(i) Geographical location and topography.

(ii) Accessibility

(iii) Availability of services –hotels, resorts, medical, transports and communication *etc.*

(iv) Adequate information.

(v) A congenial political and social atmosphere.

Here, we are concerned with ecotourism based upon the attraction, beauty both natural and scenic and destination for mental peace and recreations. This is further associated with wildlife tourism because the migratory birds visiting the dam under investigation in the early of winter *i.e.* late October or early November and again return to their origin place just with the start of summer *i.e.* mid or late march, each year, therefore, we can say that the ecotourism has its carrying capacity. The carrying capacity means tourism facilities and related infrastructure. The carrying capacity is further associated very closely with the different motivating factors for undertaking any sort of tourism specially ecotourism. This is very recent concept of ecotourism. It is richly facilitated by the new advents of “Science and Technology Frontiers” in the form of radio, telephone, aeroplanes and now computer. Actually, the ecotourism is an alternative tourism attached with natural attraction of an ecologically concern place in relation with its development and conservation. Therefore a great
potential lies for generating human employment at large. Ecotourism of chittaurgarh dam will benefit the locals and result in family based enterprise. Seeing these facts and need of the hour we thought to explore and recommend our findings to the responsible officials to undertake the project in favour of our studies.

**Observations, Results and Recommendations:**

The geography and topography of the chittaurgarh dam is so nice and attractive suitting site for the development of ecotourism of the dam under investigation. It is one of the important site for the development of the area as also being the natural factor. Chittaurgarh dam is present in the shape of artificial wetland. Upwardly it is wide in the north while it is extended in north-east. There are slopes on each sides and corner of the dam, provided with peatland all around the margins on each directions of the dam. The herbs and shrubs are factors in the vegetation of the surroundings. Although the dam is lacking any type of high altitude or elevations on the spot.

Area around the dam is environmentally sound and clean because there is no industrial unit in the surrounding or around the dam and hence there is no possibilities of any type of industrial effluents or wastes to be released in the dam. The developmental efforts regarding the postal and other facilities are being tried out. Photography unit has to be established, so that tourist can be lured towards this place. Musical nights have to be organised so that the ecotourism of the area in reference can be popularised at large basis.

Markets and emporia have to be developed along with certain handicrafts industry at village level and other village based handcrafts
emporium. Boating arrangement has better chance in the dam for recreation at leisure time. Morning walk has better perspective at this spot. For incoming tourist, medical and para-medical facilities are to be made available. Since the development of ecotourism related dam will lastly increase the economy and job opportunities for the locals. We will be trying a migratory or temporary police facility at the dam in lieu of tourist’s security. Appointment of chowkidars at the peak hours of tourists will ensure better movement of the tourist. Sound social and political atmosphere is essential for better ecotourism. Forward and backward linkage should be developed before advertising the dam as spot for ecotourism.

The establishment of tourists information system and other support systems like travel agencies, friends and relatives flow may be boon for eco-dam tourism around and surround the chittaurgarh dam as important fresh water body.

The dam having natural potential for ecotourism for urban society in India and can be more facilitated due to faster growth and efficient development in transportation and other communication system including information technology. The convenient availability of rail and road facilities are matter of great stimulation for urban tourist inflow to the dam under investigation.

Boarding and lodging facilities are the other areas of tourist inflow apart from the above mentioned facts. The medical facilities during emergency for the tourists is the other factor to be looked into seriously. At present, these facilites are totally lacking surrounding and around the
dam. Environmentally, an ideal location for developing these facilities is prevailing in relation to nature tourism. The catering facilities including eating, medical and communication services besides transportation etc. have to be developed keeping in mind about the inflow of different income groups and classes of either urban, rural or even international tourists. The security protection aspect is another important point to be seriously considered.

For sophisticated tourists, the photography facility has to be developed along with the possibilities to other sight seeing. The climate, temperature, rain and wintering conditions have to be worked out and needed to be popularised to its future courses of dam tourism progress here at this site.

**(c) Protected Areas:**

The strategy of conservation revolves around establishment of small or large protected areas which are set aside exclusively for wild life. Human activities like hunting, poaching, harvesting, killing *etc.* must be restricted in these areas so that wild plants and animals could grow and multiply in a protected environment. The strategy though not adequate or fully successful has been of much help in preserving a considerable variety of life forms. Protected areas in the form of national park and sanctuaries are usually meant for the protection of one or more species and their habitats. The basic aim of creating protected areas is to protect and conserve the biotic and a biotic spectra present in a natural area of ecological importance.

The Chittaurgarh dam habitat is large enough for existence and multiplication of wild life at a higher rate than the mortality rate of the
wild life present in it. Therefore, our basic objectives of management of this natural habitat under the category of protected area would be –

(i) To ensure that the viable populations of species present in and around this wetland ecosystem should co-exist, grow and multiply without any interference from outside factors.

(ii) Free place of chance variations in the environment, like floods, drought, hail storms, various pathogens, fires *etc.* would be permitted to enable the organisms within the system to adjust and adopt to the chance variations in the conditions of the environment. The changes should be slow and regular in order to protect the entire population.

(iii) In brief the process of natural selection and evolution should be allowed to continue uninterrupted.

The very objectives of the management of dam area is to reduce human interference or it should be as little as possible. The management practices generally adopted for protected dam habitat may, therefore, be

(i) Excluding detrimental humans interference.

(ii) Excluding the exotic species.

(iii) Excluding the detrimental biotic interference.

(iv) Using limited corrective measures.

(v) Intensive monitoring of dam area by the administration.