India is fortunate to possess the vast and varied fish germplasm resources consisting about 11% of the total fish biodiversity of 20,000 species of the world. The country is endowed with abundant fishery resources ranging from seas, estuaries, lagoons, rivers, streams, canals, reservoirs, lakes, ponds, and swamps. About 2,118 finfish species are reported from Indian water of which 376 are of economic importance.

India is blessed with a rich fish biodiversity of about 2,118 species inhabiting various biotopes and ranks ninth in term of fresh water mega biodiversity countries (Mittermeier and Mittermeier, 1997). World Conservation Monitoring Centre has identified Western Ghats as one of the important fresh water biodiversity hot spots (WCMC, 1998). Unlike plant and animal resources, most of the fish production is still based on the harvests from the wild and various conditions. Due to various anthropogenic stresses many of the species are declining.

Naturally formed lakes about 58.2 million hectare’s comprising large bodies of standing water are the important repositories of hydrological and aquatic biodiversity (Prasad et al., 2002). Lakes with an open area have thermally stratified water.
sufficiently large to produce a peripheral barren wave swept shore. The diverse ecoclimatic regime extent in the country resulted in a variety of aquatic systems with their diverse flora and fauna. Tals with absolute water saturation covered permanently or periodically by water, full of mud, marshes, bogs and fens etc., with stressed condition but in peripheral region can support the growth of specially adapted plants and animals. There are the ecosystems with freshwater saturated soils accumulating, slowly degrading plants, organic material with complex biogeochemical cycles, strongly influenced by water movement (Hopkinson, 1992).

In recent years, a plethora of guidelines (Davey, 1996) approaches (Johnson, 1995) and strategies (Braatz, 1992) have been developed to help conserving biological diversity in both terrestrial and aquatic ecosystems. The Wild life Institute of India, Deharadun recently recommended for bringing out more protected area network to 858 totaling 187,191.89 km² or 5.69% of the countries geographical area. A review of protected area network in India reveals a poor representation of aquatic area in the network. A wealth of information has been generated over the years on terrestrial biodiversity; the freshwater fish species richness with in protected areas is still imperfectly explored. Only 55 out of 566 protected areas are exclusive wetland protected area with in main land Indian territories (Hussain, 1966) and about 10% of the protected areas in the country have any
specific wetland habitat. The wild life protection act of India (1972) provides legal protection to terrestrial and some of the aquatic animal but lesser emphasis is given on freshwater fish genetic resources.

Reservoir fisheries are an important component of the inland fisheries in south and south East Asia. Indian reservoirs are classified in to large, medium and small based on their area. The total water spread area under all categories is estimated about 3.15 million ha, which constitutes about 50 percent of the total reservoir area in south East Asia. Undoubtedly they can contribute significantly to inland fish production if managed on scientific lines. In India the small reservoirs spread over nearly 1.5 million ha. Although built for the primary purposes of irrigation and soil conservation they also form one of the most important inland fisheries resources on accounts of the large resource size and huge production potential.

In FAO estimates, the three Indian Major Carps form about 74% of the total cultured freshwater fish production in terms of weight. The index of biodiversity utilized for aquaculture is quite low for India (0.13) compared to other South East Asian countries like Taiwan (0.51) (Kutty, 1999). Biological as well as genetic characterization of wild stocks of these fishes will enable linking ecological significance units with evolutionary significant unit (Ponniah, 1999). It will also lead to utilizing the natural genetic
diversity present in their identified ESSU for culture operations under different agroclimatic conditions and culture systems.

The studies have been helping us in landing at a decision in this regard in addition to contributing to fulfilling India's obligation to CBD with special emphasis on Articles 6 and 8 (UNEP, 1992) concomitantly. Fishes are valuable sources of high-grade protein and other organic products. They occupy a significant position in the socio-economic fabric of the south Asian countries by providing the population not only the nutritious food but also income and employment opportunities. The fish has also, as a taxonomic group generated unlimited curiosity of the naturalists and zoogeographers from the period as early as that of the great Aristotle. India is endowed with a vast expanse of open inland waters in the form of rivers, canals, estuaries, natural and man made lakes. Fish biodiversity conservation and fish genetic resource in particular have become an issue of great concern globally as well as nationally. Culture of ornamental fish is highly remunerative since there is a 33 fold higher price per unit weight of ornamental over food fish (Surti, 1999). While the estimated annual retail value of aquarium fish in 3 billion US $, India's export share is only 1.08 crores in 96 - 97 (MPEDA, 1998) and that too based on imported brood stocks of exotic aquarium fishes. On the other hand, many of the hill stream fishes are collected from wild and sold outside the country.
Our country represents as one of the biodiversity rich country in the globe. Since, civilization natural resources were main source to fulfill basic need of human. Starting from direct harvest from natural resources to modern farm practices, Natural Resources (NR), Human Resources (HR) and Knowledge System (KS) were three main interacting components. These components are dynamic in nature overtime and space. India is a country where 65% population earns their livelihood from natural resources either directly or through farming nature. This process contribute one fourth of national GDP. Further limitations are disparity in distribution rising consumerism, pollution of air, water and aquatic systems etc. it is oblivious that country is rich in all three NR, HR and KS, but facing challenges which are multifaceted for all three basic components. Allied area with cottage industry is still potential tool to protect our NR and HR through optimum utilization of KS. The present attempts to suggest some of the basic points for optimum utilization of KS. Constitution of dynamic legislation and policy is part of KS, which is taking care of NR and HR at national and globe level.

In fisheries sector, the techniques like captive breeding and seed rearing protocols, artificial feed formulation of potential cultivable and ornamental fishes and cost effective aquaculture and their integration with other resources needs to be patented for commercialization and encourage working of scientists.
For freshwater aquatic germplasm, well-recognized aquatic sanctuaries play important role in this sector. Even with in protected wild life areas, they do not get adequate protection and none of the sanctuaries listed by state government are implemented. The present study on specific water body will help in formulating and managing fresh water aquatic sanctuaries on specific lives as community based management system (Alcala, 1998). Several Governmental and Non-governmental programmes similar to the habitat conservation plan under US endangered species act that has helped in delisting endangered species.

In the recent CAMP workshop (CAMP, 1998), Many Ornamental species collected from wild were listed as endangered. These listings need to be validated with more detailed germplasm inventory of ornamental fishes so that effective conservation measures are planned. Some of Indian hill stream fishes (Botia spp) have been developed as aquarium strains by other countries. The present effort would identify new potential Ornamental fishes, formulated a balance strategy for exploiting Ornamental fishes from wild without adversely affecting the livelihood of people exploiting Ornamental fishes from wild without adversely affecting the livelihood of people exploiting this resource and help the Indian aquarium industry in sustainable exploitation of academic resources.
Reservoir fisheries are an important component of the inland fisheries in south and south East Asia. Indian reservoirs are classified into large medium and small based on their area. The total water spread area under all categories is estimated about 3.15 million ha, which constitutes about 50 percent of the total reservoir area in south east Asia undoubtedly they can contribute significantly to inland fish production if managed on scientific lines. In India the small reservoirs spread over nearly 1.5 million ha. Although built for the primary purposes of irrigation and soil conservation. They also form one of the most important inland fisheries resources on account of the large resource size and huge production potential.

Fish biodiversity conservation and fish genetic resources in particular has become an issue of great concern globally, as well as National issue relevant to the fish genetic conservation and sustainable management have assumed special significance in India as over Nation is endowed with rich and highly varied fish germplasm resources.

Fishes are one of the richest and almost ubiquitous groups of animals among the vertebrates comprising about 20,000 living species. They inhabit at all levels which range from the sparkling torrents to tropical hill streams to the dark and cool recesses of the deepest lakes. India is one of the mega diversity regions in the
world with rich fish diversity of 2118 species inhabiting various habitats. Based on IUCN categories the CAMP workshop (CAMP, 1997) for fresh water (FW) fishes has identified certain fish species which has attained threatened/endangered status. At the same time, there has been little study with regard to details of endemism and species richness in India.

About 21,723 fish species known to science, over 40% live in fresh water and majority of them live in tropics between latitudes 23°5'N and 23°5'S. No where in the world is a zoogeographic region so blessed as the Indian subcontinent in respect of the diversity of fish wild life that dwells the inland waters? India is endowed with a vast expanse of open inland waters in the (f)orm of rivers, canals, estuaries, natural and man made lakes, back waters, brackish water impoundments.

Culture of ornamental fish is highly remunerative since there is a 33 fold higher price per unit weight of ornamental over food fish (Suotida, 1999), while the estimated annual retail values of aquarium fish in 3 billion US $, India's export share is only 1.08 crores in 96 – 97 (MPEDA, 1998) and that too based on imported brood stocks of exotic aquarium fishes. On the other pond, many of the hill stream fishes are conceited from wild and sold outside the country.
The World Bank technical report on fresh water fish biodiversity (Kottelat and Whitten, 1996) has clearly stated that while other Asian Countries suffer from lack of studies, Indian fish taxonomy suffers from extensive literature not evaluated scientifically. The incorporation with project training on habitat inventory and taxonomy will result in better quality of data.

The information available on fresh water fish biodiversity is normally scattered and patchy. It is the foremost task to bring such information at one platform updated with new information generated through real ground surveys. Such inventory of information with respect to species and their habitat will give its actual status, abundance, distribution and other related parameters. This information base will be used as anchor for further decision – making process related to conservation. The species prioritized through such inventory will be studied at micro level. For their life history traits population structure and masked potential for culture or ornamental trade. This approach can give a comprehensive treasure of information, which can be used both for formulating conservation and culture and gene banking of selected, endangered and commercial species will form follow up of the above process. The project has another positive dimension that its mode of functioning is based on establishing linkage between various research groups.
A good number of water bodies, lakes, reservoirs with high potential in terms of fishery related activities are available in Uttar Pradesh. The areas in Eastern U. P. are having innumerable such water bodies which can be utilized to boost the economy of the local population in a sustainable way. During the last few decades, the fishery status of these water bodies has gone down considerably. It is high time to study and assess the present status of fish biodiversity and hydrobiological parameters of these water bodies and plan a strategy for their conservation. This requires detail information on the present status of fish biodiversity, catch composition of fishery resources, hydrobiological and other habitat parameters, energy estimation, breeding pattern of important species in the water bodies and socioeconomic profile of the communities living around the water body and their perception towards conservation.

The sustainable utilization of genetic resources, including fish is a vital part in improving the standard of living in a popular country like India. Concern over declining harvests and an obvious reduction in biodiversity of fish species has lead to a more holistic approach to fisheries management and research. About 11% (2200) of the total world fin fish species (More than 20,000) have been recorded from the Indian subcontinent.
Unfortunately, many fish species are in decline and some have become endangered due to a combination of over-exploitation, pesticide and aquatic pollution, spread of disease, uncontrived introduction of exotic fishes, and habitat modification due to Industrialization, river-valley projects, excessive water abstraction and siltation due to clearing.

However, there is no comprehensive list of the threatened species of fishes critically in need of protection. This lack of information on threatened species of fishes and the general lack of identification of mammals as barriers to the recognition and conservation of our vanishing fishes. An essential prerequisite to any broad programme of resource conservation is the proper taxonomic study of fish species occurring in, and a full checklist indicating the status of each species. Such a list would enable the IUCN to prepare an international list of endangered species to be included in the red data book.

The goal of achieving productivity from pond ecosystem is to sustain high yield of fish rich in protein. In aquatic ecosystem energy culminates at its different levels which generally follow a pattern of primary producers – herbivores – carnivores with considerable loss of energy at each link of food chain. From
bioenergetics point of view, the secondary producers that are (crop, fishes being linked with shorter food chain will obviously have better productivity potential than that of tertiary producers i.e. carnivores like air breathing fishes.

In India the water reservoirs lakes, occur in areas where precipitation exceeds the potential evapotranspiration leaving an accumulated water surplus. The lakes are common throughout the country especially in Jammu and Kashmir, Himanchal Pradesh, U.P., Uttranchal, Bihar and Assam and certain other parts of Western Ghats and North East region of India. About 15 wetlands occur only in Jaunpur district.

It is the time that sincere attention is given to issue and a cost effective mechanism is chalked out to revise existing legislations related to natural resources as well as to establish required linkages for effective implementation.