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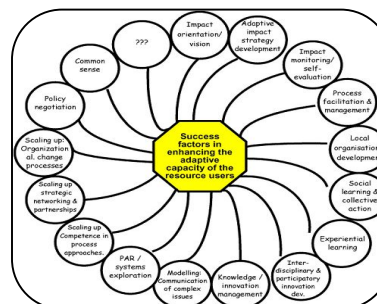
'INFLUENCE OF TRADITIONAL ECOLOGICAL KNOWLEDGE AND ITS APPLICATION IN WATER RESOURCE CONSERVATION.' A STUDY

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ABSTRACT

Our livelihood is intimately tied to the food we eat, water we drink and places where we recreate. That's why we have to promote responsibility and conservation when it comes to our natural resources.....Mark Udall India is the land of remarkable diversity . Rural people often rely heavily on natural resources for their livelihood. The long term sustainable use of such resources, such as soil and forest, depends on local people's knowledge, management and the ability of locals to maintain and utilize it. As in the case of soil management, it is reasonable to expect that such people would have seen soil and processes very closely in the vicinity of their surroundings, so it is possible to develop knowledge that they predict the possible outcomes of possible intervention able to do it is useful to isolate locally derived knowledge from formal 'soil science' because, while local insights and scientific understanding can be comparable in some cases, it may also vary in their area and structure.



Anthropological quarters, knowledge-based-systems approach at the local knowledge from ONS suggested that a utilitarian basis (Sinclair and Walker, 1999) wants. Indeed, a knowledge base includes criteria for the items that could be used in some form, the answer to the question about the process of reasoning about knowledge; conceivably, it is appropriate. However, some farmers may commonality exists to monitor and implement the same field in the same agro ecological conditions. Understanding of local knowledge is essential for effective communication with local residents and for researchers and experts who are interested in helping local development of sustainable land-use practices because research and expansion activities are targeted appropriately to local experience-rich constraints.

The Present study is one of the examples of using traditional ecological knowledge help to conserve the reservoir and other biotic organism.

KEY WORDS: Traditional Ecological Knowledge, natural resources, Conservation methods .

INTRODUCTION

Water is the essence of life on the earth and totally dominates the chemical composition of all organisms. The ubiquity of water in biota, fulcrum of biochemical metabolism, rests on its unique physical and chemical properties. The characteristics of water regulate Lake Metabolism. The unique thermal-density properties, high specific heat, and liquid-solid characteristics of water allow the formation of a stratified environment that controls extensively the chemical and biotic properties of reservoir. Water provides a tempered milieu in which extreme fluctuations in water availability and temperatures are ameliorated

relative to conditions faced by biota in aerial life, coupled with a relatively high degree of viscosity, these characteristics have enabled biota to develop many adaptations that improve sustained productivity. The amount of fresh water on earth is very small in comparison to the water of the oceans, but the freshwaters have much more rapid renewal times. Much of our limnological understanding originates from natural lentic and lotic ecosystem. Hundreds of natural reservoirs and many reservoirs however, have been created by human activities. These artificial water bodies have been created for specific purposes of water management. E.g. includes water storage, flood control, generation of electrical energy, irrigation of agricultural lands and recreation. A Reservoir ecosystem differs in significant ways from natural lake ecosystems. Study of reservoir ecosystems, however, indicates many functional similarities between artificial and natural reservoirs. In order to effectively manage and utilize reservoirs, it is important to understand the structural differences between these man-made ecosystems and natural reservoirs, while simultaneously appreciating their functional similarities. Understanding of these structural differences is mandatory for effective management and use of impounded water resources. Water released downstream is regulated according to water inputs from the drainage basin as well as uses of the water. As a result of common linear morphology in reservoir, several distinct physical and biological patterns develop longitudinally along the length of reservoirs.

The aquatic ecosystem presents a great contrast to terrestrial ecosystem and aquatic organisms display such a wide range of adaptations that they continue to attract the attention of biologists even today. Scott (1927) investigated the limnology of the Reservoir Seersiaville. Strom (1933) studied on nutritional load of Reservoir 4 bottom sediments. Fish (1929) made the survey on Lake of Erie. Deevay (1941) perhaps listed one of the early records of limnological studies pertaining to specific regional water bodies. Hutchinson (1941 and 1967), Welch (1952), Needham and Needham (1962), Odum (1971), Macan (1974), Wetzel (1975), Golterman (1978) and Gaudet (1979) studied on seasonal changes in nutrients in tropical swamp, lake Naivasha. Galloway (1980) worked on sulphur budget; Goldman and Horne (1983) have studied on physico-chemical factors influence on the aquatic biota. Seigfried et al., (1983) have studied on Big Bear Lake of California encompassing two years period study and explained the interaction of various physico-chemical factors and their impact on their primary production. Kirk (1983) worked on light and photosynthesis in aquatic ecosystem. Gorham et al., (1983) while studying the North Central America have discussed the role of electrical conductivity and ionic composition in determining the status of the lake. Salmoiraghi (1984) discussed the limnology of Suviana Brasimone, a in Italy. Polunin (1984) studied on decomposition of emergent macrophytes in freshwater. Priscu (1984) compared the nitrogen and carbon metabolism in the shallow and deep-water phytoplankton properties of a sub alpine reservoir. Richman et al., (1984) studied on the zooplankton stock, species composition and size distribution along a tropic radiant in Green Bay, Lake Michigan. Siegfried (1984) studied on the benthos of eutrophic mountain reservoirs and influence of reservoir level on community composition, abundance and production. Talling (1986) worked on the seasonality of phytoplankton in African reservoir. Timms (1986) investigated on detailed aspects of physical, chemical and biological characteristics of coastal Dune reservoirs of Eastern Australia.

Limnological studies have attracted renewed interest throughout the world only in the beginning of the 20th century. Since then voluminous works have been undertaken and compiled in different parts of the world. Though more particularly the limnological works on high altitude regions are still fragmentary. Though some valuable work in the relevant field have been carried out in the other parts of the India.

STUDY AREA

The Kumshi Reservoir a major perennial Reservoir of the Kalaburagi, which is 11 kms away from the Kalaburagi University campus which falls under 17°-22'-30" N Latitude and 76°-59'-0" E Longitude. Harnessing of the Kumshi Reservoir for irrigation purpose was considered from a long time prior to 1956 to provide facilities to the drought prone areas of Kalaburagi Town.

MATERIAL AND METHOD

Reservoir created by the dam is a new ecosystem. Various active influences over the surrounding environment For example, breaking down on animal movements, changing the quality of the rivers and reservoirs fragmented their habitats and the local environment and climate change in production. How it is best to keep the environment as well as the use of the sea have been the subject of a study of the equilibrium among the most important issue, and how it differs from the market in recent years to manage the reservoir. The most suitable method for each specific basin water management opinion based, reservoir ecosystem and its objective is to study the dynamics methods will reduce the adverse environmental effects of river basin management to establish dam arrived at the dam project alive. In the first phase of the study include investigation of the physico-chemical properties of the reservoir or detailed biology of the ecosystem biota. Collection of water samples: The water samples were collected on the monthly basis from the lake for the period of one year October to September 2016. In order to have the uniformity, water samples were collected from five fixed location in the reservoir. Estimation of the different parameters done according to the methods prescribes by APHA. Collection and analysis of phytoplankton and zooplankton Samples: collection of plankton samples, 50 liters of surface water was filtered through Plankton net made up of bolting silk no. 30. The plankton samples so obtained were preserved in 70% alcohol.

In the Second phase A Survey of surrounding villages and talk ,interview with senior most people of the village.

RESULT AND DISCUSSION.

The rainfall was occurred during winter of 2014 was observed in the month of October 2014 and 2015 and it was 384.2 mm and 164.8 mm respectively. The water temperature during winter season at all station varied between 24.5 °C to 31.5 °C. The atmospheric temperature during summer season of each station 36.2 °C to 40.5 °C The monthly fluctuations in the hydrogen-ion-concentration of Kumshi reservoir at different stations during different months ranges between 7.4 to 7.7. Free carbon dioxide concentration of the Kumshi reservoir for the northeast monsoon season of 4.4 to 7.7 mg/l. Variations in the total alkalinity of the water of Kumshi reservoir at different stations during different months for a period from October to September are presented in the during northeast monsoon the total alkalinity fluctuated from 95 to 180 mg/l. The total hardness values of Kumshi reservoir during different months varied from 130 to 156 mg/l. The calcium content during different months of northeast monsoon varied from 8.0 to 93.6 mg/l. In the present study the Kumshi reservoir falls under the moderately hard water condition. In the present investigations the low and high value of nitrogen in summer and southwest monsoon season and northeast monsoon season .The climate of Kalaburagi district is semi arid characterized by precipitation during southwest monsoon season which extends from June to September, overlapping and extension beyond the specific period. Rainfall plays a significant part in regulating the seasonal biological rhythms of different parameters in the Reservoir.

The survey and talk with the people in the surrounding village gives the importance and influenced how the traditional knowledge help to keep not only the reservoir perennial but increased the employment for the fisherman. This make me to concludes that Local people and their knowledge contribute in conservation of these natural resources .Local knowledge can be seen from the three aspects of natural resource management utility , local knowledge of local culture and practice of building awareness of the limits of the mind.

CONCLUSION

There are interesting statistics on the water of the reservoir which shows a trend and fluctuations of annual precipitation. There is a trend of gradual reduction in the amount of precipitation accompanied Climate change in recent years is considered responsible for these changes. The approach of mixed research is more important for the common property and heritage of mankind can hope and is a natural act and try to conserve the natural environment by human wisdom together.

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