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RESEARCH ARTICLE

FIELD STUDY ON MANAGEMENT STRATEGIES AND ITS FUTURE SCOPE IN DAYING ERING WILDLIFE SANCTUARY IN ARUNACHAL PRADESH

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Abstract

Arunachal Pradesh abounds in a wealth of complex and diverse ecosystems exhibiting a great deal of variation. Documenting in such a variation is essential for its proper conservation strategies and management. The Convention on Biological Diversity (CBD) commits countries to prepare inventories of the bio resources for monitoring so as to check their possible degradation and erosion. Arunachal Pradesh possess a large base line information on flora and fauna diversity but partly unorganized and scattered. Therefore, it is necessary to examine this information for ready use in different inventorying and monitoring exercise. Effective inventorying and monitoring involve careful planning. The task is to look into the efforts already put by various organization and individuals. Some flora and fauna of the state, districts and protected areas have been thoroughly documented. Programmes of monitoring can be initiated in such already documented areas. In inventorying, overlapping in our efforts is to be avoided and less explored areas are to be identified for prioritization of survey. Keeping track of population size of the species which are on the edge of elimination should be a priority activity of biodiversity management. My attempts is to study the conservation strategies and management of bio resource in Daying Ering Memorial Wildlife Sanctuary(a protected area)become less tedious and inexpensive of scheme are drawn using the existing information. The paper review existing information and the options available for building up an inventory base for the management schemes. Some suggestions having a direct or indirect bearing on monitoring schemes are included.

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Introduction:-

Introduction To Daying Ering Wildlife Sanctuary:

Name, location, constitution & extension:

The Erstwhile Lali Reserve Forest was notified, as Lali Wildlife Sanctuary vide notification no, FOR.284/78/2 date 23/08/78 subsequently renamed as Daying Ering Memorial Wildlife Sanctuary after an eminent pioneer leader of the area vide notification no. CW/37/83/D/T/4524-54 Dt. 27/10/86.

The Sanctuary covering an area of 190 sq. km is a large alluvial grassland located between long 95 ° 22'E to 95° 29'E & Lat. 27°51'N to 28° 5'N. It comprises of northern half of a River Island formed between river Siang & Sibia.

Both the river crisscrosses the sanctuary forming several islands. This Sanctuary is under the control of the D.F.O., Daying Ering Memorial Wildlife Sanctuary Division, Pasighat. The area is divided into four ranges viz., Anchalghat, Namsing, Sibiamukh & Borguli wildlife ranges.

Statement Of Significance:

This Sanctuary is the only sanctuary of its kind in Arunachal Pradesh. At least 75% of the total area is alluvial grassland & rest is covered by patches of woodland & water courses. The woodland falls under Assam alluvial plain semi evergreen forest. The total length of river courses is approx. 100 Km housing a host of aquatic animal including the magnificent Gangetic dolphin.

The Sanctuary harbors many of the most endangered wild animals & birds of the world. The very disturbing factor to existence of wildlife & the sanctuary is the indiscriminate hunting practice of the local people. There are people talking about hunting truckful of deers from the sanctuary in the past. The older people have stated that the one-horned rhinoceros was seen last in the year 1965.

In addition to the every year during rainy season the most part of sanctuary is affected by flood there by taking a big toll of wild animals every year & injuring a substantial number. Flood also damages the habitat to a great extent.

Apart from above the grassland areas in the sanctuary are very prone to fire & subjected to occurrence of devastating fire incidence every year during dry season.

There are an estimated 12-13 nos. of tigers & 15 pairs of *Bengal floricans* in the sanctuary. It has got lot of potentialities for Eco-Tourism Industry. Eco-Tourism with perspective plan can develop into a tourist hot-spots and luring both foreign and domestic tourists. Tourists can enjoy bird watching, competitive swimming of Gangetic dolphins, wilderness experience & water sports.

Review Of Literature:-

Conservation biology, though rooted in older scientific, professional, and philosophical traditions, gained its contemporary definition only in the mid-1980s. Anyone seeking to understand the history and growth of conservation biology thus faces inherent challenges. The field has formed too recently to be viewed with historical detachment, and the trends shaping it are still too fluid to be easily traced. Conservation biology's practitioners remain embedded within a process of change that has challenged conservation "in the old sense," even while extending conservation's core commitment to the future of life, human and non-human, on Earth. There is as yet no comprehensive history of conservation that allows us to understand the causes and context of conservation biology's emergence. Environmental ethicists and historians have provided essential studies of particular conservation ideas, disciplines, institutions, individuals, ecosystems, landscapes, and resources. Yet we still lack a broad, fully integrated account of the dynamic co-evolution of conservation science, philosophy, policy, and practice (Meine, 2004). The rise of conservation biology marked a new "rallying point" at the intersection of these domains; exactly how, when, and why it did so are still questions awaiting exploration.

Methodology:-

Surveys, data collection and analysis:

The wildlife sanctuary and representative villages within the 10 sq km namely (Borguli, Seram, Kongkhul, Namsing, Gadum, Mer,) and surroundings areas of the siang valley were surveyed in different months, i.e. December, January, February and March to assess the flora and fauna diversity and generate information on conservation strategies on biodiversity and its management by the concern department to conserve and protect the inhabitants of the area. Also, local knowledgeable persons including villages head were interviewed to generate information on the indigenous uses and commercial values. Among the knowledgeable persons, one person was hired in regard to know the local name and its habit within the natural habitat(s). The specimens of each species were collected and identified with the help of floras, and research papers [30-33]. Information on locality, altitudinal range, life form, habitat and other morphological characters was collected for each species. The data were compiled and analyzed for diversity and distribution pattern of the species and its present conservation strategies.

Results:-

According to my survey the following respondents may overlap for proper implementation and fruitful results of conservation management strategies of Daying Ering Memorial Wildlife sanctuary;

Human Activities:

Signs of human activities were common in the buffer zone. The most common signs of human activity were newly cut thatches, collection of sands from rivers bank and hunting equipment or signs of hunting. Less common signs of human activity included mushroom picking, trash, cut timber clusters, small cut branches, cut marks on trees, camp sites, campfires, and actual sightings of humans.

For spatial analysis all human activities were combined i.e. surveys were classified as having signs of human activities or not. The proportion of surveys with signs of human activities decreased linearly with distance.

Domestic Animals:

Signs of occurrence of domestic animals was evaluated separately from other human activities. In general, domestic animals had visited a relatively large proportion of the sites (proportion 47.2%). From surveyed it was found that signs of domestic animals was quite high (approximately 60%). However, at distances larger than 2000 m the proportion signs of domestic animals dropped. The most common domestic animals were cattle and buffalo.

Damages Caused By Wild Animals:

To Villagers of the fringe villages indicated that their crops were destroyed by wild animals. During surveyed a number of animal were mentioned to be the most problematic, these included elephants. Elephants were mentioned to be the most destructive because once they invaded paddy farms, owners were helpless and in such cases even the help from district headquarters arrived when enough damage had already been done. Elephants were, however, not coming to paddy farms every season. They only destroyed crops when there was severe drought and they usually destroyed crops on their way to PAs where there are permanent water and food for them.

The concern department sometimes were slow to respond to peasants' requests because of lack of funds. Lack of reliable vehicles was cited as another bottleneck in carrying out their duties. The Wildlife Division headquarters sometimes assist the District to carry out patrol missions by temporary sending vehicles, rangers, and funds.

Damages caused by wildlife in all the study villages were not compensated by the government because the government does not have a policy of compensating victims of wildlife although it is the owner of these animals. Failure by the government to compensate villagers makes them angry as was the case among the members of FGD, especially in those villages whose economy depended on crop farming. This finding agrees with that of Gibson and Marks (1995) who asserts that while paying the costs for conservation in the form of damaged crops and even human lives, rural communities receive few legal benefits from wildlife. As a result such policies provide few incentives for the sustainable use of wild animals.

Non wood forest product (nwfp):

The non-timber forest products of the area are thatch, sand, shingles & boulder. Thatch is in heavy demand & there had been incidents of smuggling of thatch in heavy quantity in the past. The local villagers situated on the left bank of Sibia River also collects NWFP for their domestic uses viz roofing of their houses, cattle shade etc. Due to regular patrolling of the area the incidence is at its minimum at present. Other items are sand, shingle & boulder.

Disturbances:

There are two kinds of disturbances observed: 1) natural disturbance and 2) disturbance by human interventions. Here, the parameters of natural disturbances are soil erosion by flood (in percentages per area), insects attack and wind broken trees, animal grazing and fire (in percentages per area). Sometimes animal grazing and fire are also caused by humans, because domestic animals are grazing inside the forest area and fire occurs for some mischief by villagers. The parameters of disturbances by human interventions are illegal cutting/thinning, pruning (No. of trees), soil digging (area) and sands collection (ground coverage) indicates that more or less every study area has experienced some disturbances. Among all the disturbances illegal cutting thatches or illegal collection of thatches is highest.

Vegetation:

The present study has given a clear picture on the vegetation and plant resources of the Daying Ering Memorial Wildlife Sanctuary. The habitat of the area, a complex of deciduous forests, grasslands and wetlands with their rich biodiversity are swampy vegetation in association with deciduous trees are ideal habitat for wildlife. The floristic composition of the Sanctuary was found to be quite rich. It has been observed that the vegetation of Wildlife Sanctuary has district affinity with Indo-Malayan floristic elements by representing species like *Albizia procera*, *Barringtonia acutangula*, *Bombax ceiba*, *Cassia fistula*, etc. The vegetation of the Wildlife Sanctuary is mainly regulated by natural and biotic factors along with abiotic factors. The sanctuary lies in the siang flood plain, and is greatly affected by annual flood. These phenomenon play a major important role in the ecology of Wildlife habitat of the sanctuary. The sanctuary is surrounded by many villages, so grazing, browsing and forcible fishing, collection of NWFP are the most important biotic factors that greatly influence the vegetation and wildlife sanctuary. To conserve and minimize pressure on the natural habitat of the sanctuary, there is an urgent need to introduce eco-tourism, various wildlife conservation activities and joint forest management in particular.

Conclusion And Recommendations:-

Considering the constant deterioration of uniqueness in the Daying Ering Memorial Wildlife sanctuary and decline in the population of flora and fauna, effective co-management is necessary to prevent unlawful use and extraction of resources from the sanctuary. The governance framework linking institutions with different stakeholders in the community holds promise to reduce forest degradation. Some good governance principles were observed, which include finding direction through both strategic vision exercises and embracing complexities. As well, fairness was evident in efforts to include many diverse stakeholders on committees. Regarding the fairness principle, efforts were made to support alternative income generating initiatives but these were small relative to the need. Improvements are still needed regarding legitimacy and voice, to ensure participation without discrimination and build the trust required for a true consensus-orientation. A real weakness was the lack of accountability and transparency. As well, performance was poor in its effectiveness and efficiency with insufficient staff for the large conservation area resulting in continued environmental degradation. However, justice and the rule of law were not applied with many committee members continuing to engage in the sanctuary based illegal businesses. This study was useful for scrutinizing governance performance of the organizations involved in co-management in Daying Ering Memorial Wildlife Sanctuary but ongoing mechanisms for review would improve the governance function.

Different levels of disturbance have different effects on diversity in the study sites. Thus, if the goal of management is to preserve biodiversity in the area, there is need to understand how diversity is impacted by different management strategies. Reliable information on the status and trends of ecological resources helps give decision makers the prospective necessary for orienting biodiversity policies and programs. Thus composition assessment of Daying Ering Memorial Wildlife Sanctuary will serve as a valuable tool that will enable conservators and managers of the sanctuary to quantify diversity as well as providing information on numerical structure of species in the area of study. The Eco-Development committee, which is saddled with the responsibility of managing the resources of the sanctuary in core areas, should design programmes that will create more awareness on the part of the people to see the need to protect flora and fauna species from being threatened.

Above all, studies should be carried more frequently out to ascertain the level of disturbance and how this affects flora and fauna composition, distribution and abundance in Daying Ering Memorial Wildlife Sanctuary.

Suggestions:-

The existing protection and conservation principles in managing natural resources follow the conventional strategies that do not include participation of local communities in planning and management which causes severe challenges. Some recommendations for a better protection and management of the Daying Ering Memorial Wildlife Sanctuary can be given:

1. Wildlife and forests shall be declared priority sector at the national level for which funds should be earmarked.
2. Law enforcement agencies must ensure that those engaged in poaching, illicit trade in wildlife and wildlife products, destruction of their habitat, and such other illegal activities are given quick and deterrent punishment.
3. We should fully tap the potential in wildlife tourism and at the same time take care that it does not have adverse impact in wildlife and protected areas. The revenue earned from increased tourism should be used entirely to augment available resources for conservation.

4. Protecting interests of the poor and tribals living around protected areas should be handled with sensitivity and with maximum participation of the affected people. They should have access to the minor forest produce, in the forest outside of national parks and sanctuaries. Employment and means generation for these people is crucial for maintaining symbiosis between the forests, wildlife and the people. People should be encouraged to take up afforestation and conservation in new areas.
5. While strengthening protective measures against traditional threats to wildlife, we should also respond to newer threats such as toxic chemicals and pesticides.
6. There should be greater governmental as well as societal recognition and support for the many non-governmental organisations engaged in wildlife conservation. Mainstream media to better highlight their activities as also successes of governmental initiatives that have worked.
7. Creatively produced Television Programmes on wildlife and ecology are widely appreciated by young and old as seen from the popularity of dedicated T.V. channels like , Discovery, National Geographic and Animal Planet. It is proposed that Prasar Bharati and our private channels alongwith with agencies like WWF for Nature should collaborate and increase original Indian content in different languages on our television.
8. No diversion of forest land for non-forest purposes from critical and ecologically fragile wildlife habitat shall be allowed.
9. Lands falling within 10 km. of the boundaries of National Parks and Sanctuaries should be notified as eco-fragile zones under section 3(v) of the Environment (Protection) Act 1986 and Rule 5 Sub-rule 5(viii) & (x) of the Environment (Protection) Rules.
10. Removal of encroachments and illegal activities from within forest lands and Protected Areas.

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