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RESEARCH ARTICLE

HABITAT FRAGMENTATION LENDING TO LOSS OF GENE FLOW FROM SOURCE OF POPULATION OF TIGER (PANTHERA TIGRIS), A STUDY OF CORBETT REFERENCE TO CORRIDOR, RAMNAGAR, INDIA

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ABSTRACT

Fragmentation of habitat depicts the negative impact on any habitat and directly or indirectly affects the habit. Whenever ecological requirement of tiger will disturb than other vital need will also suppressed by various means. Ecologically disturbed animal may lead towards human-dominated landscape & chances of conflict become more frequent .On the other hand remarkable anthropogenic stress on Kosi corridor i.e. construction of Resort and hotels depleted the connectivity of two vital forest(CTR& RFD) along with Kosi river. RFD (Ramnagar Forest Division) is vital for tiger, it have good density while CTR, the Corbett Tiger Reserve itself the place of roar. Kosi corridor is near about vanishing for wildlife movement in both the forest area. Vital connectivity is cut off in this forest. This study depicts the movement pattern of big cat. Food habit denotes the carrying capacity of area. On the other hand livestock predation may lead the digestive infection in animal etc. Tiger readily kill the domestic ungulates. Division like Tarai West Forest Division is very crucial. Gujjars are regular facing the livestock predation.

Key Words: Fragmentation, Ecological Needs, Vital Requirement, Anthropogenic Stress.

INTRODUCTION

The day by day the needs of tiger are increasing along with anthropogenic stress. We have to plan to fulfill the wild need of tiger rather emphasizing on tourism and collection of revenue. First we have to save and conserve the habitat of tiger, all the research should be oriented on wild landscape development not completely tourism oriented. Degradation in the quality of forest and illegal anthropogenic for timber, sand etc. leads shrinkage of tiger habitat and situation increase in the conflict. Tiger is very intelligent animal and are able to feasible in any habitat. Livestock predation developed the skill to dwell in human-dominated areas. They are very perfect to watch the human activity. Kosi corridor is very important, frequent movement of wildlife is threatened by rapid development of resorts and infrastructure along the Ramnagar-Ranikhet highways NH121 beside the bank of Kosi River.

MATERIALS AND METHODS

Collection of sign survey (scat, pug marks, Livestock predation cases etc) for the movement pattern of tiger. Questionnaire survey and informal interviews of key persons.

Study Area

Corbett Tiger Reserve and its periphery had chosen for this study. Nearby villages and human-dominated areas were interviewed for movement and livestock predation etc.Corbett Tiger Reserve is situated in the Bhabar tract of Siwalik formation at altitude of 400-1200 m. Vital statistic of Corbett is Area 1318.54 sq.km Core-520.82 sq.km.).

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Sonanadi Wildlife Sanctuary -301.18 sq.km) Reserve forest 496.84sq.km. Altitude 400 ml-1, 2010 m above mean sea level. The Rāmgangā River enters the reserve from the northeast and after several zigzag turns emerges out from the southwest. The Palain , Sonanadi, Mandal, and the Rāmgangā rivers are the major perennial water bodies of the reserve that contain water all year round. On the other hand Kosi River formed the eastern boundary of the Reserve. A lot of anthropogenic stress along with Kosi River likes hotels & resorts have been erect and vanishing the Kosi corridor day by day. Corbett is surrounded by 5 Forest division i.e. Ramnagar forest division, Lansdowne forest division, Garhwal forest division, Tarai West forest division, and Bijnor forest division. All the scats were collected in this landscape.

Methodology

Semi structured (open and close ended question) questionnaire surveys in Gujjars of Tarai West Forest Division closed to Jhirna Zone of Corbett, nearby villages like Mohan, Tedha, Chukam, Sunderkhal, Dhikuli, Pawalgarh, Patkote etc were conducted.

RESULTS AND DISCUSSION

Finally the result shows that regular movement of tiger was earlier than current scenario (Table 2) due to anthropogenic stress like mushrooming of resorts & hotels along with Kosi River between the Corbett Tiger Reserve and Ramnagar Forest Division. These resorts and hotels are block aging the in and fro movement of tiger for gene flow and other various vital function. Ultimately the vital corridor is merely vanishing at all.

Fig. 1. Study area with sharp demarcation of different colored line depicts the different detail.

Table 1. Occurrence of Respondents (Villagers) for movement pattern of Tiger

S.NO	VILLAGE	No. of Respondents	Tiger Movement	% Occurrence
1	MOHAN	38	24	15%
2	CHUKAM	30	22	14%
3	SUNDERKHAL	55	50	31%
4	DHIKULI	25	15	9.4%
5	RINGORA	20	14	9%
6	TEDHA	24	19	12%
7	TARAI WEST(Gujjar)	15	14	9%
Total	7	207	158	

Table 2. Tiger movement & sighting before /after blockage of corridor (Resorts formation)

VILLAGE	Respondent No(X)	Earlier		Current	
		Regular (Y)	Irregular (X-Y)	Regular (Z)	Irregular (X-Z)
MOHAN	38	35	3	11	27
CHUKAM	30	28	2	18	12
SUNDERKHAL	55	50	5	45	10
RINGORA	20	18	2	4	16
TEDHA	24	22	2	8	16
TARAI WEST	15	12	3	13	2
SAWELDEH	18	15	3	14	4
DHELA	16	14	2	14	2
KANIYA	22	20	2	18	4
TOTAL	238	214	24	145	93

Table 3. Detail of sign survey depicts the presence of tiger in area

VILLAGES	No. 0f Scats(X)	No. of Pug Marks(Y)	Total(X+Y)	Total % (X+Y)
MOHAN	15	24	39	15%
CHUKAM	20	30	50	19%
SUNDERKHAL	50	41	91	34%
RINGORA	12	8	20	7%
TEDHA	12	17	29	11%
DHELA	8	12	20	7%
SAWELDEH	7	11	19	7%
TOTAL	124	143	267	

Fig2- Sunderkhal village between Corbett and Ramnagar Forest Division along with Kosi River

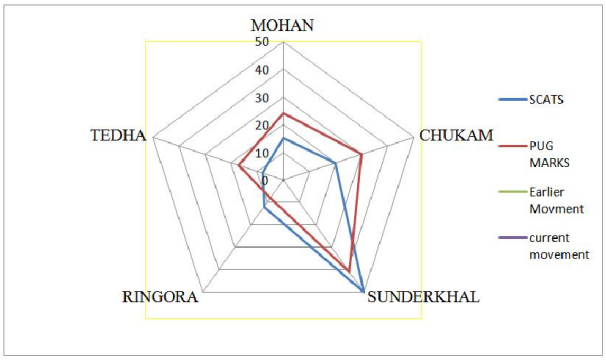

Fig. 3. Graphical Representation of movement pattern of Tiger along with Corridor before & after anthropogenic stress

DISCUSSION

Over all this study provide the frame work of anthropogenic stress. Survey denotes that in corridor the villages like Sunderkhal & Chukam are more vulnerable and this village should be relocating anywhere else to protect and conservation point of view for tiger and its habitat. While on the other hand data shows that the regular and irregular movement of tiger in corridor before & after the formation of resorts and other ecological cum sociological stress upon the area etc.

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