

# TIGER MORTALITY, (FROM 9-11-2000 TO 25-5-2013), IN CORBETT TIGER RESERVE, RAMNAGAR, UK, INDIA. A DATA ANALYSIS FOR ECOLOGICAL NEED OF PANTHERA TIGRIS.

Sanjeev Kumar (M.Sc, FISCA),  
Research Scholar,  
Dept. of Zoology  
Govt. P.G.College, Ramnagar,  
Uttarakhand, India.  
skmprasaddevbhumi@gmail.com

**Abstract**— Tiger conservation is a big issue now a day not only in Indian counterpart but all around the world. Livestock predation is important issue to develop the negative attitude of people towards tiger while on the other hand the ecological cum vital need compel the tiger to move out in human-dominated landscape is another kind of trouble for both the tiger and mankind in reserve and its periphery. Disturbance in carrying capacity of area leads mortality situation, Struggle for existence is a natural phenomenon for vital need. Gujjars are based on milk i.e. cattle. At least minimum 50 buffaloes are rearing and practicing grazing illegally in parks which leads conflict and die heart situation for both man & animals. On the other hand the Kosi corridor near about vanishing day by day so in and fro movement of wildlife is blocked between Corbett tiger reserve & Ramnagar forest division. Such types of situation affect the genetic viability with conservation point of view and vital ecological need for big cat.

**Index Terms**— Conservation, ecological needs vital requirement, corridor, and struggle.

## I. INTRODUCTION

- Tiger is a territorial animal. They mark their boundary. So inter specific as well as intra specific struggle is very common. On the other hand the mortality rate is very high. Other sympatric species like Leopard (*Panthera pardus*) mostly found to kill tiger cubs. Leopard is very furious to take out the prey. Prey depletion and prey abundance is an important factor for survival of tiger in wild. 214 tiger and 117 Leopard are dwelling in the area of 1524 sq.km as per official report. So total overall  $214+117=331$  big cats are present in the area of 1524 sq. km. If the area is divided by the number of total animals than we can assure or calculate the area for one big cat i.e.  $1524/331=4.6$ km. Near about 4-5 km. is available for

one big cat along with other wild animal. So if carrying capacity will disturb than chances of survival for big cat will decrease. A chance of poaching (poisoning) is very less or even no in Corbett. Table 1 shows the cause of tiger death most of cases depicts the fighting. In mating season the territorial fight and mating struggle is very common but distribution of area is less so chances of natural fight leads death or mortality in tiger and big cats.

## II. MATERIALS AND METHODS-

Study material is tiger mortality data collected from Corbett official research range. Over all near about 13 year data had been collected for current study. After analysis of all data, year wise data had been graphically presented (Table 1).

**Study area-** Corbett Tiger Reserve, the beautiful land of roar is chosen for this study.

**Table 1- Details of Tiger Death Cases From 9-11-2011 to 27-5-2013 in Corbett Tiger Reserve Ramnagar**

S.No	Species & Sex	Date	Cause of Death	Place/Area
1	Tiger (M)	5-3-2001	Infighting to other tiger	Dhikala Ranj. Leedkhal iya ,inside road
2	Tiger(M)	11-4-2001	fighting	Dhela & Bijrani ranj, kaasarwa Sot
3	Tiger(F)	16-12-2001	Brain Hemorrhage	Palain ranj, Mandalty C.No.9

4	Tiger(F)	26-5-2002	Injury of Neck	Mandal ranj.sankar Beet
5	Tiger (F)	17-8-2002	fighting	Kalagarh Nalkatta C.No ,8&9
6	Tiger(F)	23-4-2003	Disease of Intestine	Kalagarh ranj. Nee m Sot
7	Tiger cub(F)	7-1-2004	Killed by Male tiger	Kalagarh ranj.Nalkatta Block C.No-8
8	Tiger Cub(F)	9-1-2004	Killed by Male tiger	Kalagarh ranj.Nalkatta Block C.No-9
9	Tiger (F)	26-1-2004	Injured	Bijrani ranj .Malani C.No 13
10	Tiger(M)	11-2-2004	Natural	Jhirana ranj.Jhir na Block C.No.8
11	Tiger(F)	9-1-2006	fighting	Bijrani ranj.Mal ani BlockC. No.19
12	Tiger(F)	26-2-2006	fighting	Dhelaranj SawaldeBlock C.No.5
13	Tiger(F)	7-3-2006	fighting	Dhela ranj. Dhela Hill BlockC. No.10
14	Tiger Cub(F)	3-1-2007	Killed by crocodile	Sarpdulli ranj. Near Champion pul
15	Tiger(F)	20-1-2007	Hypovolumic shock	Maidavan ranj.

				Near Manda l river
16	Tiger Cub(F)	15-6-2007	Totally putrified	Dhela ranj. DhelaHill BlockC. No.2&8
17	Tiger(M)	22-9-2007	Natural	Kalagarh ranj. Dhara BlockC. No13
18	Tiger(F)	31-10-2007	fighting	Kalagarh ranj. Paterpan i BlockC. No18
19	Tiger(M)	31/1-11-2007	fighting	Sonanadi Ranj.Lal darwaja C.No15
20	Tiger(F)	10-3-2008	fighting	Jhirna ranj. Jamunagwar BlockC.No10
21	Tiger(F)	4-11-2008	Natural	Kalagarh ranj,Mo hanpani chour
22	Tiger(M)	9-3-2009	Natural	Dhela ranj.Pa thurawa(W) Block C.No4
23	Tiger(M)	17-3-2009	fighting	Dhela ranj.Sawalde Bhavar Plot-5
24	Tiger(M)	27-5-2009	Decomposed	Maidavan ranj.(E)Manda l.C.No.-10
25	Tiger(M)	1-8-2009	fighting	Mandal ranj.(E)Dumunda.C.No-1
26	Tiger(M)	13-12-2009	fighting	Dhikala ranj.Dhikala BlockC.No-4
27	Tiger(F)	16-12-2009	Old age,natural	Sarpduli ranj. Tairiya C.No-1 Near Ramganga

				River.
28	Tiger(M)	5-1-2010	natural	Dhikala ranjKandaBlock.C.No-23
29	Tiger(M)	11-1-2010	natural	Dhikala ranjKandaBlock.C.No-1A
30	Tiger Cub (M)	2-7-2010	Found Injured, death under treatment	Kalagarh ranj Found injured
31	Tiger(F)	25-1-2011	fighting	Kalagarh ranj. Dhara Block C.No-1 Maiggeen Sot
32	Tiger(M)	19-2-2011	fighting	Kalagarh ranj.Dhara Block.Khatpani
33	Tiger(F)	1-4-2011	natural	Dhikala ranjKandaBlock.C.No-12&13
34	Unknown	3-5-2011	fighting	Sarpduli ranj.Dhikala Block C.No-24 Kothidhunga Sot
35	Tiger(F)	7-6-2011	Brain damage/Fracture of Cervical vertebrae	Kalagarh ranj. Dhara Block C.No-7
36	Tiger Cub (F)	28-7-2011	Accident	Dhela ranj Sawalde Bhavar BlockN-1
37	Tiger(M)	15-9-2011	fighting	Bijrani ranj. HimmatpurDotiyal ,Nainital Zoo
38	Tiger Cub(F) 15-20 days	14-12-2011	natural	Dhela ranj Dhela Bhabar Block C.No.5&6 joint
39	Tiger Cub(M)	13-1-2012	Serious dehydration	Jhirna ranj.Jhirna Block C.No-8
40	Tiger(M)	20-2-2012	fighting	Sonanadi ranj Dholkhand C.No-11

41	Tiger unknown	8-4-2012	natural	Bijrani ranj. Phultal BlockC.No-10
42	Tiger unknown	25-5-2012	-	Bijrani ranj.
43	Tiger(F)	27-9-2011	-	Dhela ranj Kaseruwa compart No-11

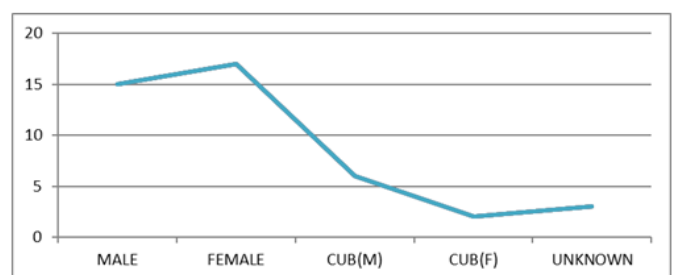
Source: Official Corbett Research Range (Shodh Range). Corbett Tiger Reserve, Ramnagar.

### III. RESULT AND DISCUSSION;

Total 43 cases were analyzed from 9-11-2000 to 27-5-2013. Mostly the result shows that fighting cases, it depicts the stress in tiger habitat & stress on carrying capacity. So result shows that fighting case indicates the insufficient area to dwell wild in wild. Tiger is territorial animal; it marks the area by different ways. So the social organization is always varies area to area with vital need and ecological fulfillment for wild tiger in natural habitat. During breeding season the fighting is very common but being a territorial animal the struggle is more in rest of other wild animal.

### IV. DISCUSSION-

So over all 43 tiger were lost (Table 1) from 9-11-2000 to 27-5-2013 in Corbett Tiger Reserve. Among total 43, the 15 were male, 17 were female and cub male were 6 & 2 were cub female and other 3 were unknown. Finally result depicts that such a big loss in 12-13 year ( 42 tiger). Hopefully the result showing the disturb ecological need that's why the mortality rate in high in the area. On the other hand tiger mortality rate is very high in wild. For wild survival of tiger is very tough and challenging. Following graph show the tiger loss sex wise in 12/13 years.



Fig; Tiger mortality sex wise in 12 years.

### V. CONCLUSION-

So conclusion of this study is serious concerned with the vital ecological need for tiger in the concerned area. Prey biomass research is highly needed & scientific monitoring of big cat by all means is recommended very honestly than only we can

save the big cat. Female loss is a big loss because the female is brooder while male is breeder.

REFERENCES

- [1] **Adhikari,B,Williams,F& Lovett J.C(2007)** Local benefits from community forests in middle hills of Nepal Forest Policy and Economics 9;464-478
- [2] **Agrawal, A &Gupta.K(2005)** Decentralization and Participation; The Governance of Common Pool Resources in Nepal's Terai; World Development 33(7);1101-1114
- [3] **Andom.G&Omer.M.K(2003)** Traditional cattle-husbandry system in Eritera: cattle-human relationship, *Journal of Arid Environments* 53:4455506
- [4] **Athreya,V.R, Thakur& Chaudhuri,S & A.B Beslare.(2004)** A study of man-leopard conflict in Junar Forest Division,Pune District Maharashtra.Submitt to the office of the Chief Wildlife Warden, Nagpur.Maharashtra Forest Department.
- [5] **Bagchi,S& Misra.C,(2006)** Living with large carnivores: predation on livestock by the snow leopard (*Uncia uncia*).*Journal of zoology*, 268,217-224
- [6] **Bajimaya, S.2003.** Nepal's experience in participatory biodiversity conservation with emphasis on buffer zone initiatives. *Policy Matters* 12:276-286
- [7] **Baral, N.2005.** Resource use and conservation attitude of local people in western terai landscape, Nepal.M.Sc. Thesis. Florida. International University, Florida USA.
- [8] **Bhatta, S.R.1994.** Beginning with buffer zone management: a case study from Royal Bardia National Park Nepal.M.Sc Thesis. Norwegian University of Life Science.
- [9] **Barlow, A.2004.** Monitoring wild tiger (*Panthera tigris*) populations: lessons from a long term camera trapping study in Royal Chitwan National Park, Nepal.M.Sc thesis. University of Minnesota, St.Paul,MN USA.
- [10] **Chapron, G, Miquella, D.G.Lambert, A.Goodrich, J.M.Legendre.s&Colbert, J, 2008.** The impact on tigers of poaching versus prey depletion.*Journal of Applied Ecology* 45:1667-1674.
- [11] **Karanth,K.U.& Stith, B.M.1999.** Prey depletion as a critical determinant of tiger population viability.In:Seidensticker,J.,Christie,S.,Jackson,P.(Eds.) *,Riding the Tiger:TigerConservation in Human-dominated Landscapes.* Cambridge University Press, pp316-332.
- [12] **Kolowski,J.M& Holekamp, K.E.2006.** Spatial,temporal,and physical characteristics of livestock depredation by large carnivores along a Kenyan reserve border.*Biological Conservation* 128: 529-541.
- [13] **Madhusudan, M.D.2003.** Living amidst large large wildlife: Livestock and crop deredation by large mammals in the interior villages of Bhadra Tiger Reserve,South India.*Environmental Management* 31:466-475.
- [14] **McDougal,C.,1987.** The Man-eating tiger in geographical historical perspective. In:Telson, R.L.,Seal, U.S.(Eds.) *Tigers of the World:The Biology ,Biopolitics,Management and Conservation of an Endangered Species.* Noyes Publication,Park Ridge, New Jersy,pp.434-488.
- [15] **Mishra, C.1997.** Livestock depredation by large carnivores in Indian Trans-Himalaya:conflict perceptions and conservation prospects.*Environ. Conserv.*24:338-343.,
- [16] **Muhummed,N.,Kamal,M.T.,Haque, F., Chowdhury,M.S.H.& Koike, M .2007.** A study on the Royal Bengal Tiger (*Panthera tigris tigris* ) of the Sundarbans in Bangladesh with special reference to tiger-human conflict.*J.Socio.Res.Dev.*4:86-91