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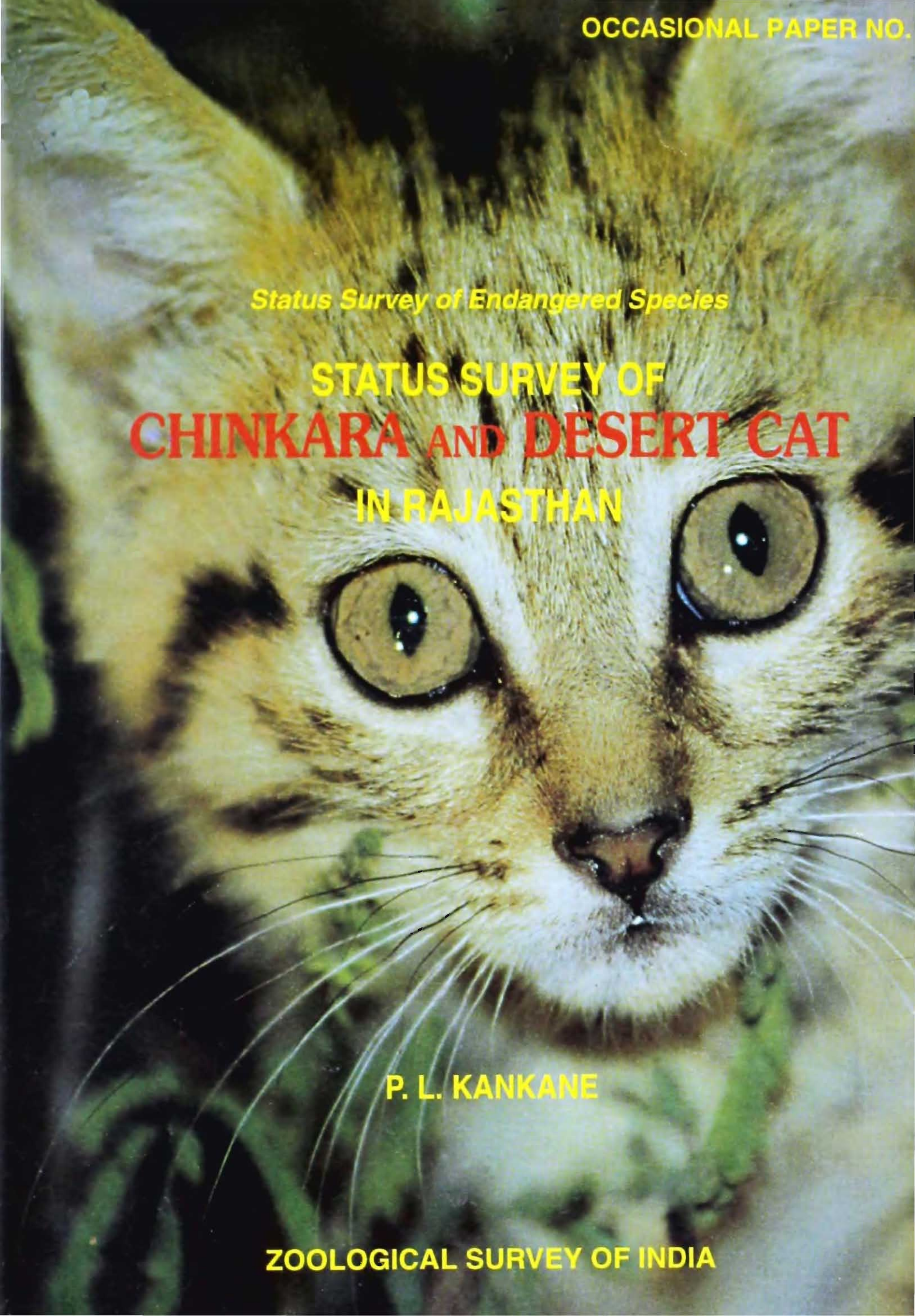

Status Survey of Endangered Species

STATUS SURVEY OF CHINKARA AND DESERT CAT IN RAJASTHAN

P. L. KANKANE

ZOOLOGICAL SURVEY OF INDIA

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RECORDS OF THE
ZOOLOGICAL SURVEY OF INDIA

Status Survey of Endangered Species

STATUS SURVEY OF CHINKARA AND DESERT CAT IN RAJASTHAN

P. L. KANKANE
Desert Regional Station, Zoological Survey of India
Jodhpur–342 009 (Rajasthan)

Edited by the Director, Zoological Survey of India

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EXECUTIVE SUMMARY

The Zoological Survey of India has taken up a project on the 'Status Survey of Chinkara and Desert Cat in Rajasthan under its endangered species programme. The project is the first such attempt covering throughout the state. The report is based on the sightings of target animals. It is also based on the response of forest officials, knowledgeable villagers, shepherds, officials of NGOs and old *shikaris*, to the colour photographs of the animals during interview. Almost all the localities with positive response were surveyed personally and sightings recorded. As the developmental activities and wildlife dispersal are inversely related, the development blocks have been chosen as a unit for displaying the results of the present survey. The field survey conducted during March 1993 to April 1995 has yielded present distributional pattern of the target animals in a total of 236 development blocks spread over 30 districts of Rajasthan. It has also generated a base line data for further detailed study on the population structure of the two animals. A brief summary of the findings of the survey is given below.

Chinkara or Indian Gazelle

The Indian Gazelle, *Gazella bennetti* is Turano-Indian faunal element, distributed from eastern Iran to India. Within Indian limits it occurs in plains and low hills of northwestern and central India extending through the open lands of Deccan to a little south of Krishna river, covering nine states. Chinkara are not found in the alluvial plains, in regions of extensive cultivation, which is the habitat favoured by black buck.

The present study reveals that the chinkara population of Rajasthan has now shrunk around three nuclie namely, Phalodi, Bassi and Dausa in southwestern, southeastern and northeastern parts of Rajasthan respectively. Out of total 236 development blocks surveyed, occurrence of the chinkara has been ruled-out in 116 (about 50%) blocks by authentic sources (as explained above). Out of remaining 120 positive report blocks, 100 (83%) have been personally visited and in 39 of them chinkara has been sighted. Hence, on proportional basis, it is concluded that at present Rajasthan population of chinkara is distributed in at least 47 development blocks. However, the population is not evenly distributed

in the blocks with positive report. The frequency of sighting records is more in southwestern (Phalodi nucleus) Rajasthan in comparison to two other areas of concentration. At the same time 89 percent of the total 725 heads counted during the survey were from southwest. This suggests that at present southwest Rajasthan holds the major population of the chinkara. During the survey a total of 725 heads were counted in 254 herds with majority (69%) of chinkara in herd size of 1 to 5 and the highest frequency is that of single animal. While hunting, especially jeep mounted hunting in the Thar, has caused decrease in the population, paucity of feed, mainly due to over-grazing by innumerable livestock animals is also one of the causative agents of the decline in their number in their present habitat. Moreover, motorised irrigation through network of canals, wells and tube-wells are gradually changing the scrub wasteland, the primary habitat of chinkara, to multi crop land, hence making it more suitable to man and eliminating the age old occupant.

Desert Cat

The Indian subspecies of the Desert Cat, *Felis silvestris ornata* occurs in arid and semi-arid zones of western India which includes Gujarat, Rajasthan, Madhya Pradesh and Maharashtra up to Pune and Nagpur.

In Rajasthan, scrub jungles, steppe and sandy croplands are the preferred habitats of the Desert cat. Being nocturnal in habit they spent most of the day time in burrows or in natural hiding places, hence, collection of preliminary occurrence reports were limited to villagers, shepherds and field staff of the forest department who are professionaly bound to share cat is habitat and also keen wildlife watchers.

The present survey reveals that out of total 236 development blocks the Desert cat was reported to occur in 90 (38% of the total) blocks. Out of total 90 positive report blocks 82 were personally visited and in 15 of them (18% of blocks with positive reports) the Desert cat was sighted. For the first time photographic evidence of occurrence-cum-local variations of the Desert cat has been registered in the wild. Based on the results, it is concluded that their distribution is patchy and population is very scarce. Another dimension of the Desert cat population is their free mixing and breeding with village cat. As a consequence in several villages of the desert the cat just resembled *Felis silvestris ornata* in their external appearance. It has, therefore, become extremely importan to separate out wild and village strains of Desert cats through DNA finger printing.

The Desert cat shares more or less same habitat as the chinkara. Hence, factors working against their survival are same as described above. However, the Desert cat has one additional drawback. It possesses beautiful soft fur, hence, most soughtafter in the international fur trade.

The pattern of distribution of the two target animals emerged out of the present survey invites our attention. It reveals that major population of chinkara and Desert cat now occur outside existing protected areas. Although, state government has declared number of "Closed areas", with only fraction of their area fenced, for protection of such populations, still, these can not be considered areas of long term conservation benefits as the government has no hold over the land. Hence, these populations are susceptible to change in land use pattern, which is very much offing.

An important aspect of conservation is the public awareness of different endangered species of lesser cats. This could be achieved by preparing publicity material supported by good quality colour photographs. However, at present good quality colour photographs of any lesser cat species in wild are not easily available.

CHINKARA

- First attempt covering the whole state.
- Population shrunk into 47 development blocks.
- Southwestern part holds maximum concentration.
- Minor concentration areas around Bassi and Dausa.
- Major population outside protected areas, susceptible to change in land use pattern.

DESERT CAT

- First photographic evidence of occurrence-cum-variations in the wild.
- Occurrence reported in 90 and sighted in 15 development blocks.
- Breeding with village cat produce hybrids, taxonomic status require DNA finger printing study.
- Public awareness required for effective conservation.

ACKNOWLEDGEMENTS

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Some of the drawings of mammels have been used in Fig. 12 from copyright free illustration series 'Mammals of India' published by Centre for Environment Education, Ahmedabad. Some drawings have also been used from the book 'Mammals of the Thar Desert' for which author's gratitude is expressed to Dr. Ishwar Prakash and Scientific Publishers, Jodhpur.

INTRODUCTION

In the conservation of natural resources, the desert areas of India have been recognised nationally and internationally. Rajasthan is the major desert state in India today with about 60% of the Thar in the west of the state exhibiting an excellent faunal diversity because of an admixture of Saharan, Turanian, Oriental and Peninsular elements. Luckily, narrative accounts of the abundance of the mammals during late nineteenth centuary are available in Blanford, 1888-91, Jerdon, 1867, and Adams, 1899. Most of these authors reported a mammalian abundance in the desert region, a habitat preserved *in situ*, due to a low density of human being. On the other hand the eastern part of Rajasthan falls under semi-arid zone which is a large transition area between the true desert and the seasonally wet peninsular India. Accordingly, abundance of grasses and edible shrubs allows the development of relatively high ungulate densities, for example chital, nilgai, sambar, and the associated carnivores.

Rajasthan hosts major populations of several mammalian species of great conservation significance though they are not restricted to the state or to the two above mentioned bio-geographic zones. Such species are caracal, wolf, jungle cat, leopard, tiger, chowsingha, black buck, including gazelle and desert cat the two target species taken up for study under this project.

OBJECTIVES OF THE STUDY

During the last three decades, pelt trade, poaching, land use changes, escalation of human and livestock population and developmental activities have resulted into a total transformation of the desert scenario and wildlife numbers have fast dwindled. The Indian gazelle or chinkara, *Gazella bennetti* and the Desert cat, *Felis silvestris* are no exception and have to face fast changing environment. However, in the absence of any quantitative figures on abundance and/or their spatial distribution, it is very difficult to assess and monitor changes in their present status and distribution as well as to put-up a case to international legislative bodies for their legal protection. Hence, to begin with two typical mammals of arid environment chinkara and desert cat were selected and an

attempt has been made to create a base line data on their spatial distribution and relative abundance.

STUDY AREA

Rajasthan lies between 23° and 30° north latitude and 69° and 78° eas longitude, in the track of the Arabian sea branch of the southwest monsoon. The Aravallis and, in the south-east the plateau of Hadauti being the only highlands, they channel the monsoons coming from Kathiawar and stop the drier eastern flow, creating the desert in the west.

Bird's Eye View

Rajasthan is separated from Ganga basin by watershed of the Aravalli mountains which bend from northeast to southwest because of a deep fault which displaced these mountains some 1,225 km in central portion to 300 km in its eastern portion near Delhi.

The typical topographical region into which Rajasthan's 342,274 sq. km. area can be divided are the northeastern hill tract the Vindhyan plateau extensions in the southeast, the basins of Chappan and Banas, the Aravalli backbone, the Shekhavati uplands in the northwest and the Luni basin of southwest merging into the large area on the west the desert which occupies some 2,13,000 sq. km.

Entering here from Delhi, are encountered the northeastern hilly tract which open out into the eastern plains of the Banas and Chappan rivers which lies between the highland plateau of the Hadauti on the east and Aravalli range and Bhorat plateau on the west.

Known as Mewar plains to the north and Chappan plains to the east this stretch from Jaipur, through Tonk and Bhilwara upto Udaipur is of hard rock usually speckled granite. The rocks here have been cut and carried away for ages for carvings and the silver, lead and zink deposits from Zawar for making the beautiful jewellery worn here. The Banas and Chappan rivers flow east from the aravalli watershed and their western tributaries flow from Vindhyan plateau.

Further, south is tribal belt along the Mahi river tributaries. It is a land of hills and deep valleys, an area which is deeply eroded and very different from the gneissic plain of Mewar. Here separate hillocks stand on a rough uneven land supporting scanty forests of Sal on them.

East of these plains, almost shielding Rajasthan from southern India, stand the sentinels—the Vindhya ranges, known locally as (Haraouti) Hadauti plateau. This area is drained by the the river Chambal. Southwards, a sharp scrap overlooks the Bundelkhand area of Madhya Pradesh. Formed by bending of the Aravallis by a mighty thrust from the southern plateau is *Pathar* or stony upland of Kota, Bundi area near Banswara and Pratapgarh. It is here that the Deccan lava lands meet the folded Aravalli ranges, the peninsula to the mainland.

West of the Aravallis, before entering the *Marusthali* or the great desert, is the desert margin. The plains of river Luni, the Shekhavati region, and in the north, the saddle between Jaipur and Jodhpur, with Ghaggar plains, is a desert land with several salt lakes.

South of Shekhavati the land has many dry rivers ; the largest being the Luni which gets water from the tiny rivulets that run off the Aravalli hills. This river rises at Ana Sagar at Pushkar near Ajmer and with its few tributaries flows into a briny swamp in the Rann of Kutch. Luni brings sweet water to the driest parts of Rajasthan. It has thick deposits of sand in its channel and the water course become a mere trickle in the summer.

Vegetation

The state of Rajasthan is endowed with a wealth of a wide range of vegetation which can broadly be categorised into two distinct groups. One comprising the arid vegetation, falling into western part of the state while the other belonging to semi-arid to sub-humid one of eastern and southern Rajasthan.

The western Rajasthan, characterised by sparse vegetation, is neither barren nor un-inhabited, it is covered with bushes and shrubs and even small trees. It is a great sandy tract with no streams and few rocks that protrude above the lower land now covered with sand, seeming to be immobile sand dunes. The grasses on these dunes grow in clumps, indicating the availability of water just beneath the sandy soil. The desert is a roving ground for camels, buffaloes and cows which are known for their strength and size. Today what is observed is the degraded stage and sometimes extreme degradation. In contrast to western region, the eastern region receives 50-80 cm rainfall (fig. 1) and largely constitutes the plains, deeply buried or exposed pediment plains or undulating rocky plains, valleys and Aravalli range which contain most of the protected reserve forest areas (fig. 4). The plains are largely under double cropping and hence the existing vegetation is very much modified due to agricultural operations.

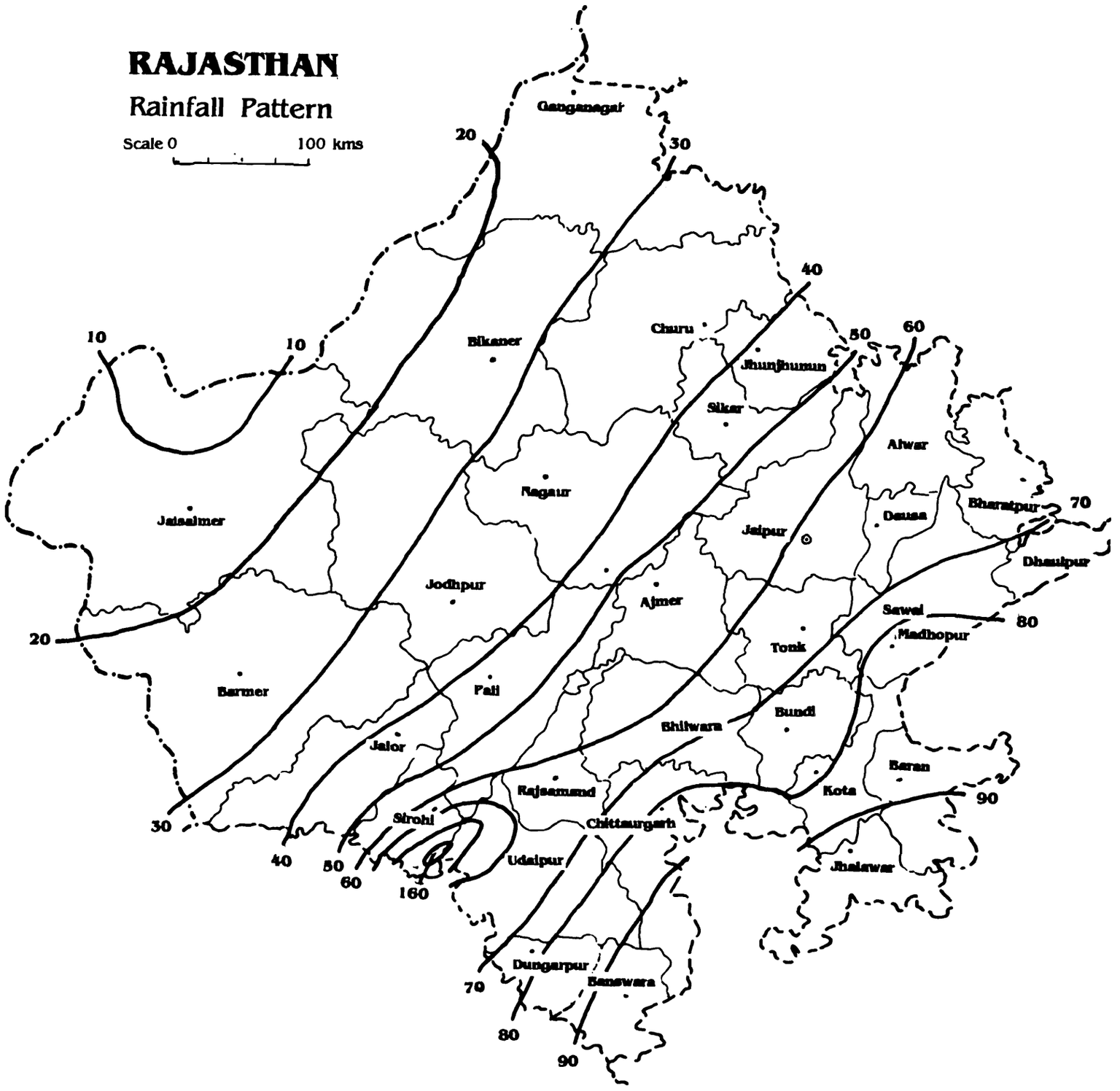


Fig. 1 : Rainfall pattern prevailed over the state

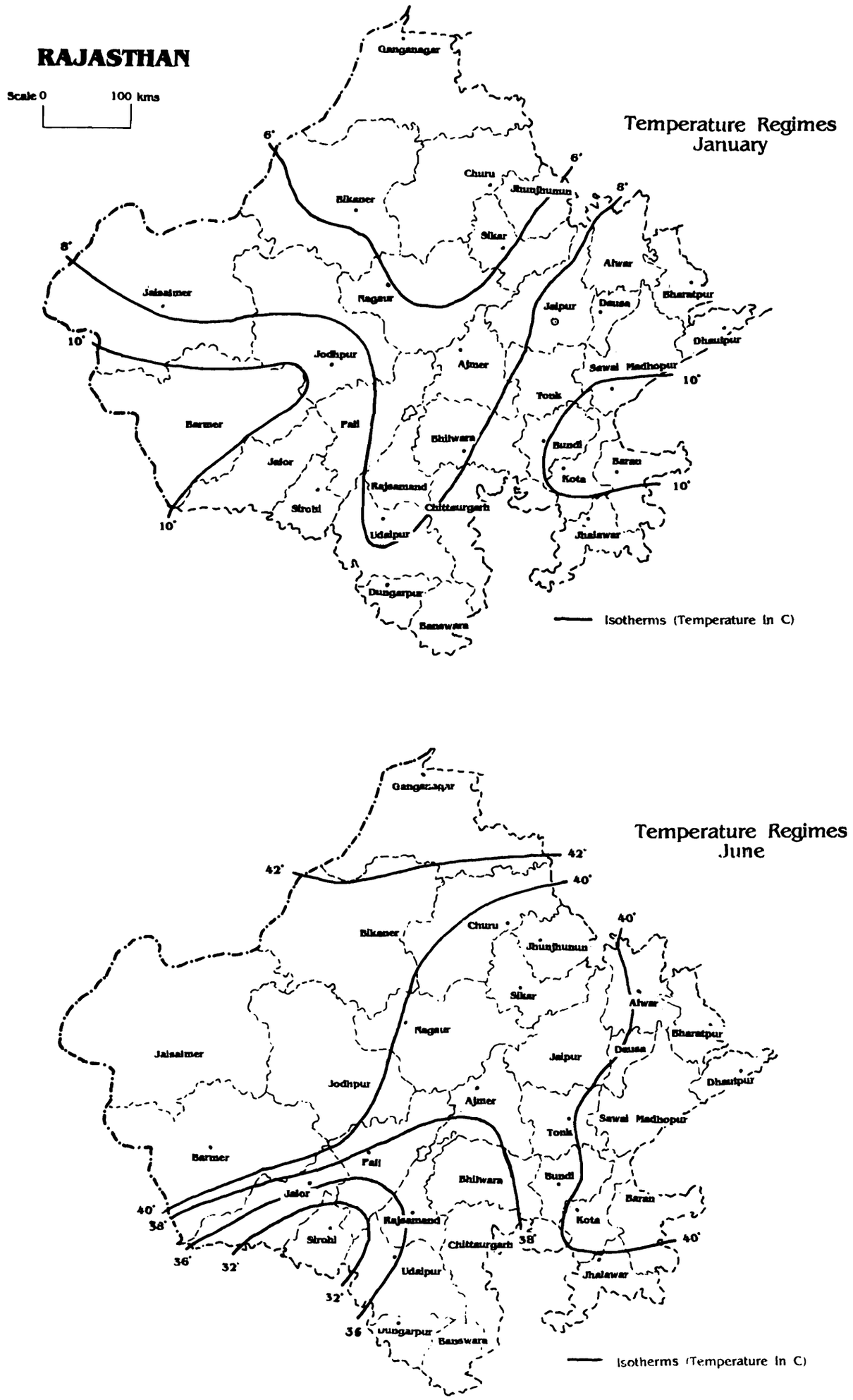


Fig. 2 : Temperature regime map during January and June

Climate

The climate of Rajasthan varies from arid to sub-humid. To the west of Aravalli range the climate is characterised by low humidity and high wind velocity. The climate is semi-arid to sub-humid in the east of Aravalli range characterised by more or less the same extremes in temperatures but relatively lower wind velocity, and high humidity with better rainfall. Kindly see fig. 1 for pattern (isohytes) prevailed over the state.

A marked variation in diurnal and seasonal range of temperatures occur throughout the state which is the most characteristic phenomenon of warm-dry continental climate. The summer begins with month of March with temperature rising progressively through April, May, June and reaches up to 49° C at some places. The winter season remains from December through February with marked decline in minimum temperature in December and January. A sharp decline in night temperatures is experienced throughout the arid and semi-arid zone of western Rajasthan on account of quick release of thermal radiation from sandy soil soon after the dusk. Kindly see temperature regime map (fig. 2) for January and June for details.

Apart from above two prominent climatic factors, rainfall and temperature, the humidity, wind velocity and duration of sunshine etc. affect the cropping pattern in a significant way which in turn affect agricultural practices and also life style of the people. On the basis of climatic conditions and agricultural produce Rajasthan has been divided into nine agroclimatic zones (fig. 3). The different agroclimatic zones alongwith their characteristics have been depicted in table 1.

PROTECTED AREAS

Rajasthan has three tier conservation system with a large network of closed areas (32) as well as sanctuaries (23) and national parks (2), which is about 9250 sq. km. (only national parks and sanctuaries) and constitute about 2.7% of total geographical area of state. (table 2). In addition to above government has declared 32 closed areas (table 2) of about 27950 sq. km., for the purpose of giving added protection to individual species like chinkara, black buck and fox. The closed areas are typical areas of scrub, grazing and cropland, where wildlife populations have been traditionally protected by villagers. However, change in land use practice is leading to loss of wasteland and increased man-animal conflict.

Table–1

The Characteristics of different agroclimatic zones of Rajasthan

Sr. No.	Zones	Availability of Surface water		Availability of Ground water			Availability of Canal water		Tank	CROPPING PETTERN																				Remarks
		Not Developed	Developed	Deep	Not Deep	Brackish	Potable	Yes	No	Water	Bajra	Kharif Pulses	Guar	Cotton	Sugarcane	Sesamum	Maize	Sorghum	Paddy	Wheat	Oil seed	Mustard	Gram	Barley	Rabi Cotton	Opium	Vegitables	Fruits	
IA	Arid Western Plains	Y		Y		Y					Y	Y	Y							0	0	0								
IB	Irrigated North West Plains							Y				Y		Y	Y					Y		Y	Y					Y	Y	Highest Productivity
IIA	Transitional plain of Inland Drainage	Y			Y		Y		Y		Y	Y				Y				0		0	0	0						
IIB	Transitional plain of Luni Basin		Y		Y		Y				Y	Y	Y			Y	Y			0		0		0						
IIIA	Semi-arid Eastern plains				Y						Y	Y						Y		Y		Y	Y	Y						
IIIB	Flood Prone Eastern Plains		Y		Y		Y	Y			Y	Y			Y	Y	Y	Y				Y		Y	Y	Y				Better Comparative to Western part of Aravalli
IVA	Sub humid southern plains & the Aravalli Hills		Y		Y					Y							Y			Y	Y		Y		Y	Y				
IVB	Humid Southern Plains		Y		Y					Y					Y		Y	Y	Y		Y	Y			Y					
V	Humid South Eastern Plains		Y		Y					Y				Y	Y			Y	Y	Y		Y	Y	Y			Y			

0 = Localised depend on availability of Ground Water/Canal Water/Conserved moisture.

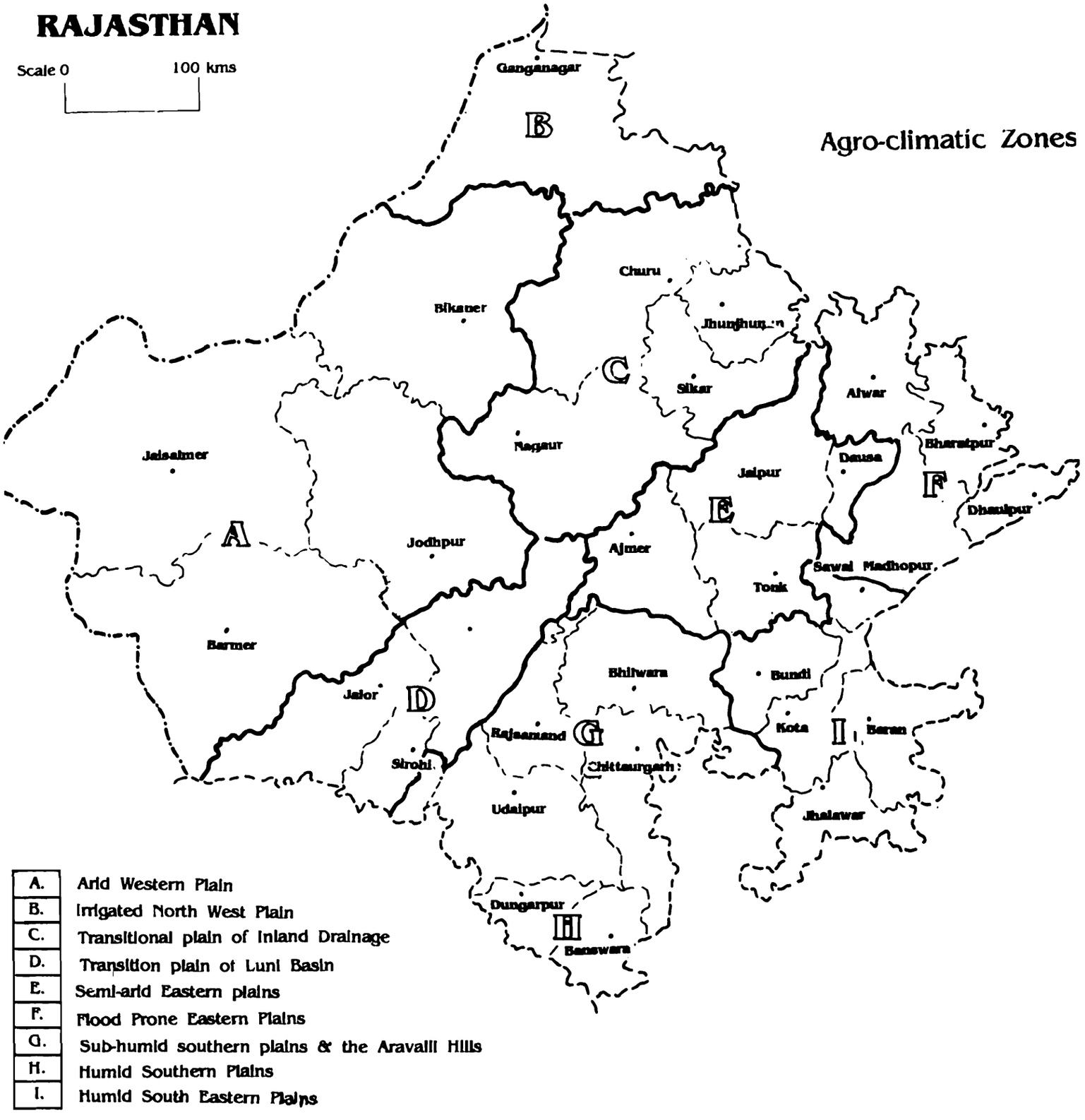


Fig. 3 : Different agroclimatic zones of Rajasthan

The closed area status is not a long term conservation measure. While the grasslands and scrublands of Rajasthan are valuable habitats for wildlife, they also house large populations of resident and transient domestic livestock. As a result, many wildlife areas are largely degraded in absence of effective core zone system. Consequently, wildlife biomass is only a fraction of that of domestic stock. This problem is more pronounced in the western Rajasthan where, due to private land holdings, government has no other means except to adopted 'closed area'strategy for giving protection to wildlife. However, the eastern part is relatively-well protected with about 23 protected areas including two national parks. Details of the existing protected areas are given in table 2 and mapped in fig 4.

MAN-ANIMAL RELATIONSHIP

Culturally speaking, the people of Rajasthan have over the centuries, developed a dichotomous attitude towards wildlife. On the one hand, there were the Rajputs-the princely caste and their minions, besides a number of nomadic and forest dwelling tribes, who looked upon hunting of wildlife as one of the main pastimes. They killed whatever game came their way. On the other extreme of the psycho-social spectrum, there were the believers in absolute non-violence, particularly those belonging to the trading communities, *Brahmins* and practicing *Jains* and some other religious sects (Prakash, 1980). The contribution of *Bishnoi* community towards cause of wildlife in general and black buck in particular in the states of Rajasthan and Haryana occupies a distinctive position and needs no elaboration. In the past, during the days of the princes, it was the prerogative of the Rajas and nobles to hunt in the state forests, but poachers and defaulting commoners were severely punished for any violation of the rules. Their love to wildlife speaks for itself and some of their creations are the best sanctuaries and national parks we see today—Sariska, Sawai Madhopur and Bharatpur. However, the situation gradually changed after we got independence and the commoners become the lord of the day. In the absence of any legislation, merciless, thoughtless and ruthless killing of all wildlife become the order of the day till the Parliament enacted Wildlife Protection Act in the year 1972. Nevertheless, the magnitude of impact of man and his attitude towards the wildlife has reached to such an extent that now-a-days the distribution maps of animal loving human communities have become the distribution maps of wildlife.

Fig. 4 : Protected areas of Rajasthan

Table–2

Protected Areas (PA) in Rajasthan

Sl. No.	Name of the P. A.	Legal Status			Area (sq. km.)	District/s
		National	Inter-National	Management Practice		
1.	2.	3.	4.	5.	6.	7.
1.	Bandh Baretha	Sanctuary			192.76	Bharatpur
2.	Bagdarah	Closed Area			34.24	Udaipur
3.	Bajju	Closed Area			100.00	Bikaner
4.	Bardod	Closed area			23.60	Alwar
5.	Bassi	Sanctuary			152.90	Chittaurgarh
6.	Bhainsorgarh	Sanctuary			229.14	Chittaurgarh
7.	Darrah	Sanctuary			265.80	Kota
8.	Dechu	Closed Area			2000.00	Jodhpur
9.	Desert National Park	Sanctuary			3162.00	Jaisalmer/Barmer
10.	Deshnok	Closed Area			25.17	Bikaner
11.	Dhorimanna	Closed Area			69.15	Bikaner
12.	Diyatra	Closed Area			50.19	Bikaner
13.	Doli	Closed Area			424.76	Jodhpur
14.	Fulwari-ki-Nal	Sanctuary			511.41	Udaipur
15.	Gangwana	Closed Area			2100.00	Ajmer
16.	Gura Bishnoi & Fitkasni	Closed Area			424.58	Jodhpur
17.	Jaisamand	Sanctuary			52.00	Udaipur
18.	Jamwa Ramgarh	Sanctuary			300.00	Jaipur
19.	Jawahar Sagar	Sanctuary			100.00	Kota
20.	Jambeshwarji	Closed Area			3500.00	Jodhpur
21.	Jaroda	Closed Area			30.00	Nagaur
22.	Jawaidam	Closed Area			5.00	Pali
23.	Jodvir	Closed Area			75.84	Bikaner
24.	Jodiyana	Closed Area			30.00	Alwar
25.	Kanaksagar	Closed Area			8.00	Bundi

(Contd.)

Sl. No.	Name of the P. A.	Legal Status			Area (Sq. km.)	District/s
		National	Inter-National	Management Practice		
1.	2.	3.	4.	5.	6.	7.
26.	Keladevi	Sanctuary			676.38	Sawai Madhopur
27.	Keoladeo	National Park	Ramsar Site		28.73	Bharatpur
28.	Kumbhalgarh	Sanctuary			578.25	Pali/Udaipur
29.	Lohawat	Closed Area			1242.31	Jodhpur
30.	Mehlan	Closed Area			5.00	Jaipur
31.	Mount Abu	Sanctuary			288.84	Sirohi
32.	Menal	Closed Area			20.00	Chittaurgarh
33.	Mukam	Closed Area			168.82	Bikaner
34.	Nahargarh	Sanctuary			50.00	Jaipur
35.	National Chambal	Sanctuary			280.00	Kota
36.	Kualji	Closed Area			40.00	Sawai Madhopur
37.	Ranipura	Closed Area			120.00	Tonk
38.	Ranthambhor	National Park		Tiger Reserve	392.00	Sawai Madhopur
39.	Ramdeora	Closed Area			3000.00	Jaisalmer
40.	Rotu	Closed Area			50.00	Nagaur
41.	Ramgarh Vishdhari	Sanctuary			307.00	Bundi
42.	Sajjangarh	Sanctuary			5.19	Udaipur
43.	Sanchore	Closed Area			1813.12	Jalore
44.	Sariska	Sanctuary		Tiger Reserve	492.00	Alwar
45.	Sainthal Sagar	Closed Area			3.00	Jaipur
46.	Sathin	Closed Area			244.86	Jodhpur
47.	Sitamata	Sanctuary			422.94	Chittaurgarh
48.	Sawai Mansingh	Sanctuary			103.25	Sawai Madhopur
49.	Sawantsar Kotasar	Closed Area			7091.04	Churu
50.	Shergarh	Sanctuary			98.71	Kota
51.	Sonkhalia	Closed Area			171.34	Ajmer
52.	Sorsan	Closed Area			80.00	Baran
53.	Tal Chhapar	Sanctuary			7.90	Churu

(Contd.)

Sl. No.	Name of the P. A.	Legal Status		Management Practice	Area (Sq. km.)	District/s
		National	Inter-National			
1.	2.	3.	4.	5.	6.	7.
54.	Tadgarh Rawali	Sanctuary			495.27	Ajmer
55.	Tilora	Closed Area			2000.00	Ajmer
56.	Ujalan	Closed Area			3000.00	Jaisalmer
57.	Van Vihar	Sanctuary			59.93	Dhaulpur
	* Sambar	*Nil	Ramsar Site		321.00	Nagaur/Jaipur / Ajmer

* Not defined

SUMMARY

	Total Number	Total Area (sq. km.)
National Parks (NP)	2	420.73
Sanctuaries ((Sanc.)	23	8831.67
Closed Areas	32	27950.02
Tiger Reserves	2	884.00
Biosphere Reserves	Nil	Nil
Ramsar Sites	2	349.73
Total P. A. (NP+Sanc.)		9252.40
Total Geographical Area (State)		342239.00
Percent of total area (Under NP+Sanc.) to Geo. Area of State		2.70%
Closed area + NP + Sanc.		37202.42
Percent of Closed area to the total of NP+Sanc. + Closed area		75%

Fig. 5 : Survey routes

METHODOLOGY

This report is the result of two years of field study from March 93 to April 95. It is based on six field surveys conducted by two member party for about 100 days and scanning about 16000 kilometres covering all the districts of Rajasthan. The details of the area (districts) covered, duration and total kilometres scanned are given in table 3.

In order to shortlist present localities of distribution, initially, each district headquarter was visited to contact forest officials (table-4) and enquiries about the availability of chinkara and desert cat in their districts, if any, were made. While most of them know chinkara, to identify desert cat, except for the few, they require photographic aids to recollect whether they have seen any cat like that. However, most of the field staff of the forest department and forest labourers were found to be keen animal watchers as for as desert cat is concerned. In addition to above, locality responses of knowledgeable villagers, shepherds, old *shikaris* and in some districts NGOs to the colour photographs of the target animals were also recorded. Later, the survey routes (Kindly see fig. 5 for details) were designed in such a way as to cover maximum possible potential localities of the district short listed as above. The results of the exercise carried out, as explained above, are blockwise (Development block : lowest administrative unit) tabulated in table 5. Though chinkara and desert cat share almost same habitat, activities of desert cat were restricted to late night hours. Hence, special arrangements were made for searching the cat. A provision was made for sitting over the fibre glass body of the vehicle with 12V focus light operated on jeep batteries. This method enhanced the manoeuverability of focusing light, its penetration and radial coverage manifolds, in comparison to when sitting inside the jeep. It also facilitated camera operations.

In addition to sighting records, presence of pug marks and scats were also considered as good source of authentication for presence of the target animals in a particular development block.

As explained above, day time field survey was carried out by the vehicle and data were recorded on Transect Data Sheet (TDS) designed for the purpose

Table – 3

Itinerary and period of field survey

Tour	Districts	Duration	Days	Distance (km.)
I.	Jalore Barmer Jaisalmer Bikaner Churu Ganganagar	23. 3. 93 to 12. 4. 93	21	3796
II.	Nagaur Jaipur Dausa Sikar Jhunjhunu Alwar	31. 3. 94 to 17. 4. 94	18	2727
III.	Ajmer Pali Jodhpur Jalore (Part)	17. 8. 94 to 31. 8. 94	15	1827
IV.	Sirohi Udaipur Chittaurgarh Bhilwara Dungarpur Banswara	10. 11. 94 to 26. 11. 94	17	2681
V.	Bharatpur Dholpur Sawai Madhopur Tonk	17. 2. 95 to 3. 3. 95	15	2511
VI.	Kota Bundi Jhalawar Baran	26. 3. 94 to 9. 4. 95	15	2435
	29		101	15977

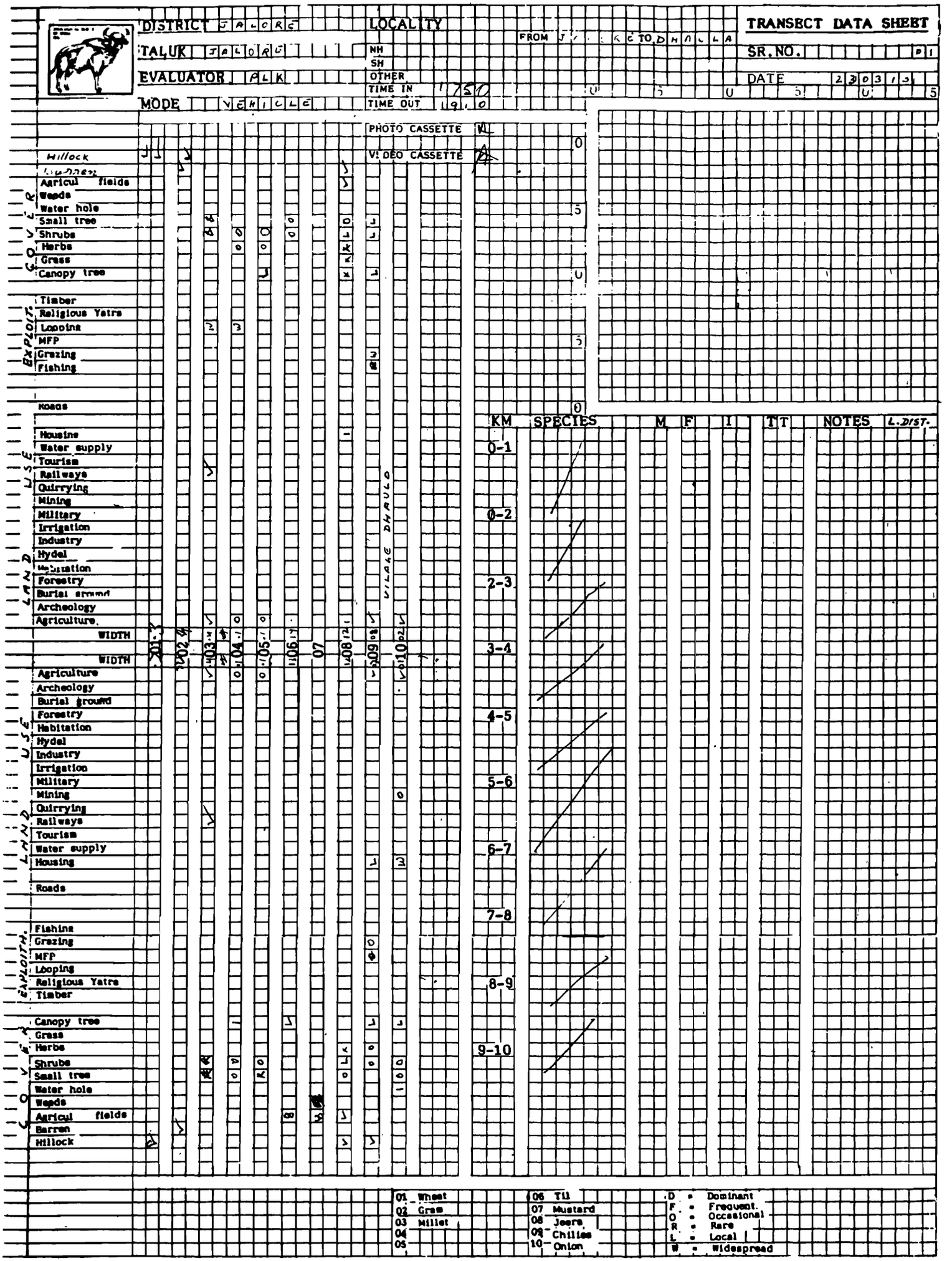


Fig. 6 : A Specimen Transect Data Sheet (TDS)

Table–4

Summary of Discussions held with different Authorities

Institution/Office District	Name	Designation	Outcome of Discussion						
			Scope of Study	Field Procedure	Places to be visited	Distributional Pattern	Facilities	Accommodation	Other than assigned Districts
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Desert Regional Stn.	1. Dr. Q. H. Baqri	Joint Director	Y	Y			Y		
Z.S.I.	2. Dr. Ishwar Prakash	INSA Sr. Sci.	Y	Y	Y	Y			
Jodhpur	3. Dr. N. S. Rathore	Scientist-SD			Y			Y	
Forest Department	1. Sri A. B. Mathur	PCCF	Y				Y		
Van Bhavan	2. R. S. Bhandari	CWLW	Y	Y	Y	Y	Y	Y	
Jaipur	3. Fateh Singh Rathore	TA TO CWLW		Y	Y	Y			
Mt. Abu	1. Sri V. K. Salwan	DCF		Y	Y	Y	Y	Y	Y
Ajmer	1. Sri Rajan Mathur	DFO			Y		Y		
Baran	:								
Barmer	1. Sri A. K. Singh	ACF (WL)		Y	Y	Y	Y	Y	
Bundi	1. Sri R. K. Grover	DFO			Y	Y			
Bikaner	1. Sri Ramanand Acharya Sanskrit Vidya. (Nokha)	Swami			Y	Y			Y
Bharatpur	1. Sri A. S. Brar	DFO (WL)	Y	Y	Y		Y	Y	Y
Banswara	1. Sri G. V. Reddy	DFO			Y	Y	Y	Y	Y
	2. Sri Naresh Chandra Sharma	RO			Y				
Bhilwara	1. Sri Tejveer Singh	DFO			Y	Y			Y
Chittaurgarh	1. Sri R.C. Sharma	DCF			Y	Y	Y		
	2. Sri Jain	RO (Bassi)					Y	Y	
	3. Rao Sahib Kesri Singh Ji	Rao Sahib of Bassi			Y	Y			
	4. Sri Jhala	ACF (Dariyawad)			Y	Y	Y	Y	Y
Churu	:								
Dungarpur	:								
Dausa	1. Sri K. P. Gupta	DCF			Y		Y	Y	
Dholpur	1. Sri Sahib Singh	DCF			Y		Y	Y	
	2. Sri Ranvir Singh	ACF					Y	Y	

(Contd.)

Institution/Office District	Name	Designation	Outcome of Discussion						
			Scope of Study	Field Procedure	Places to be visited	Distributional Pattern	Facilities	Accommodation	Other than assigned District
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Ganganagar	:								
Jodhpur	1. Sri D. L. D. Mathur	CF			Y		Y	Y	Y
	2. Sri M. L. Sonal	ACF							
	1. Sri Vijay Singh Rathore	DCF					Y	Y	
Jhunjhunun	1. Sri B. D. Sharma	DFO			Y		Y	Y	
Jalore	:								
Jhalawar	1. Sri M. K. Garg	DFO			Y		Y	Y	Y
Kota	1. Smt. Surtti Sharma	DFO (WL)	Y	Y	Y	Y	Y	Y	Y
	2. Rao Baljeet Sing	Dir. (Kota Mus)	Y	Y		Y			Y
Karauli	1. Sri Surendra Vikaram Singh	RO (Karauli)					Y	Y	
Nagaur	1. Sri Dinesh Chandra	DFO	Y	Y	Y	Y			Y
Pali	1. Sri Lalit Singh Ranawat	ACF (WL)			Y	Y	Y	Y	
	2. Sri Bhagwan Singh Rathore	RO (Sadri)			Y	Y	Y	Y	Y
Rajsamand	1. Sri Devi Sing	RO (Tadgarh)					Y	Y	
Sikar	:								
Sawai Madhopur	1. Sri S. S. Choudhary	CF	Y		Y	Y		Y	
	2. Sri K. C. Joshi	DCF				Y	Y	Y	
Sariska	1. Sri Sunayan Sharma	DCF (Sariska TR)		Y	Y	Y	Y	Y	
	2. Sri L. P. Sharma Field Dir.	Asstt. (-do-)			Y	Y			
Sirohi	:								
Tonk	1. Sri Deepak Bhatnagar	DFO		Y	Y	Y	Y	Y	
Udaipur	1. Sri Raghuvir Singh Sekhawat	TA TO CF		Y	Y			Y	
	2. Sri J. S. Nathawat	DCF (WL)		Y	Y	Y	Y		
	3. Sri Satish Kumar Sharma	RO (Jhadol)	Y	Y					
	4. Sri Abhaya Singh	RO (Jaisamand)							
	5. Sri Raza Tehseen	W.W.F.		Y	Y				
I. I. R.S.	1. Dr. P. S. Roy	Head & Prof.	Y						
Dehra Dun		(For. & Ecol. Div.)	Y						

: Information for these districts was collected either from officers of other districts or field staff of the district concerned.

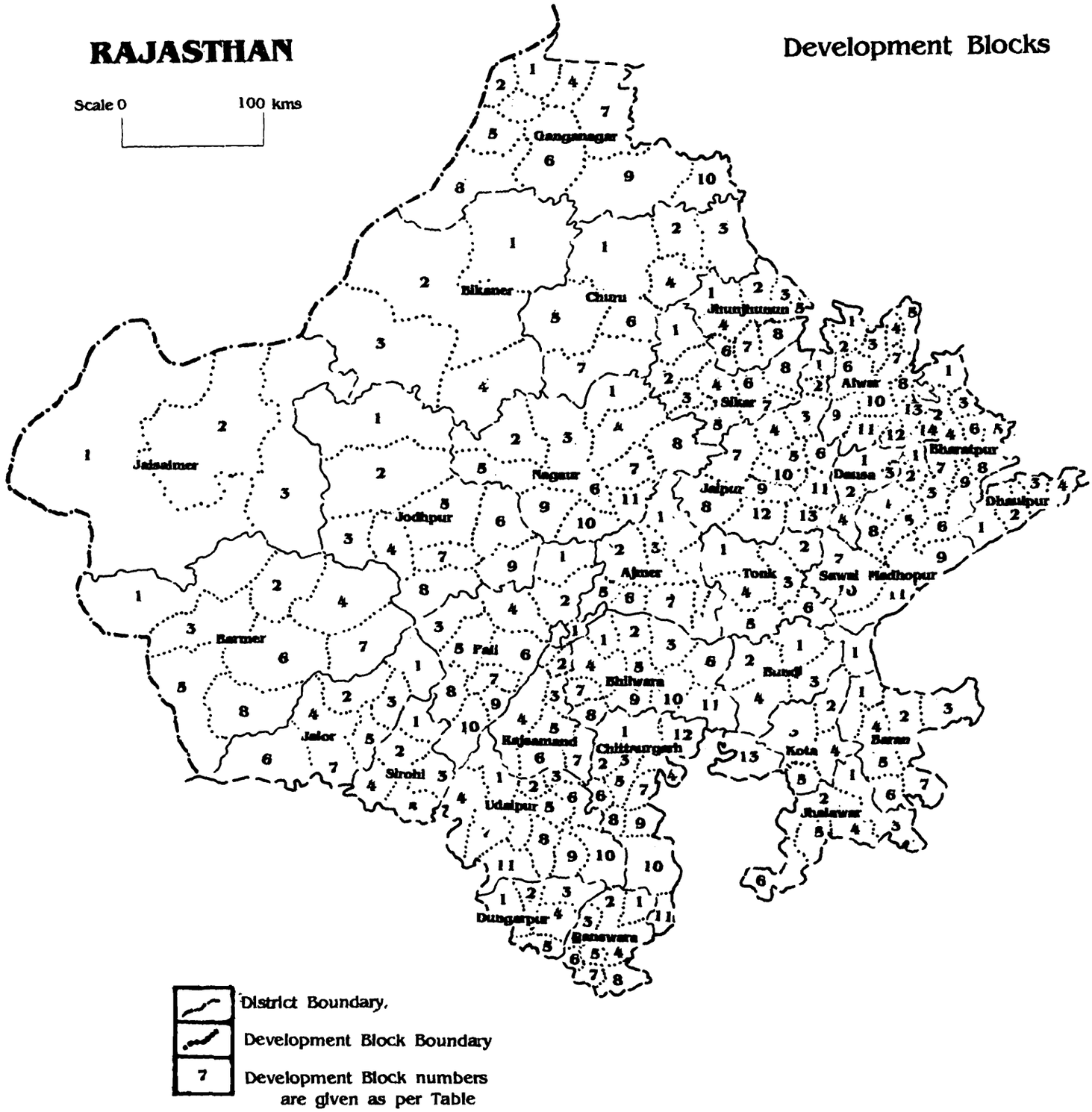


Fig. 7 : District wise development blocks (236) in Rajasthan.

(Please refer facing page for name of the blocks)

1.	Ajmer	1. Silora 2. Pisangan 3. Srinagar 4. Arain 5. Jawaja 6. Masuda 7. Bhinai 8. Kekri
2.	Alwar	1. Nimrana 2. Bahror 3. Mandawar 4. Kot Qasim 5. Tijara 6. Bansur 7. Kishangarh Bas 8. Ramgarh 9. Thana Gazi 10. Umrain 11. Rajgarh 12. Reni 13. Govindgarh 14. Kathumar
3.	Baran	1. Mangrol Anta 2. Kishanganj 3. Shahbad 4. Baran 5. Chohtan 6. Sindari 7. Siwana 8. Chhabra
4.	Barmer	1. Shiv 2. Baytu 3. Barmer 4. Balotra 5. Chouhtan 6. Sindari 7. Siwana 8. Dhorimanna
5.	Banswara	1. Ghatol 2. Peepal Khoont 3.Garhi 4. Talwara 5. Bagidora 6. Anandpuri 7. Sajjangarh 8. Kushalgarh
6.	Bhilwara	1. Asind 2. Hurrda 3. Sahpura 4. Mandal 5. Banera 6. Jahazpur 7. Raipur 8. Sahara 9. Suwana 10. Kotri 11. Mandalgarh
7.	Bikaner	1. Lunkaransar 2. Bikaner 3. Kolayat 4. Nokha
8.	Bharatpur	1. Kaman 2. Nagar 3. Deeg 4. Nadbai 5. Kumber 6. Sewar 7. Wer 8. Rupbas 9. Bayana
9.	Bundi	1. Neenwa 2. Hindoli 3. Keshorai Patan 4. Talera
10.	Chittaurgarh	1. Rashmi 2. Bhupalsagar 3. Kapasan 4. Chittorgarh 5. Bhadesar 6. Dungla 7. Nimbahera 8. Bari Sadri 9. Chooti Sadri 10. Pratapgarh 11. Arnud 12. Begun 13. Bhainsrorgarh
11.	Churu	1. Sardarshahar 2. Taranagar 3. Rajgarh 4. Churu 5. Sri Dungargarh 6. Ratangarh 7. Sujangarh
12.	Dausa	1. Bandikui 23. Dausa 3. Sikrai 4. lalsot
13.	Dhaulpur	1. Baseri 2. Bari 3. Dhaulpur 4. Rajakhera
14.	Dungarpur	1. Bichhiwara 2. Dungarpur 3. Aspur 4. Sagwara 5. Simalwara
15.	Ganganagar	1. Ganganagar 2. Karanpur 3. Padampur 4. Sadulshahar 5. Raisingh Nagar 6. Suratgarh 7. Hanumangarh 8. Anupgarh 9. Nohar 10. Bhadra
16.	Jaisalmer	1. Sam 2. Jaisalmer 3. Sankra
17.	Jaipur	1. Kotputli 2. Viratnagar 3. Shahpura 4. Govindgarh 5. Amber 6. Jamwa Ramgarh 7. Sambhar 8. Dudu 9. Sanganer 10. Jhotwara 11. Bassi 12 Phagi 13. Chaksu
18.	Jalore	1. Ahore 2. Saila 3. Jalore 4. Bhinmal 5. Jaswantpura 6. Sanchore 7. Raniwara
19.	Jhalawar	1. Khanpur 2. Jhalrapatan 3. Manohar Thana 4. Bakani 5. Pirawa 6. Dag
20.	Jhunjhunun	1. Alsisar 2. Chirawa 3. Surajgarh 4. Jhunjhunun 5. Buhana 6. Nawalgarh 7. Udaipurwati 8. Khetri
21.	Jodhpur	1. Bap 2. Phalodi 3. Shergarh 4. Balesar 5. Osian 6. Bhopalgarh 7. Mandore 8. Luni 9. Bilara
22.	Kota	1. Itawa 2. Sultanpur 3. Ladpura 4. Sangod 5. Chechat
23.	Nagaur	1. Ladnun 2. Nagaur 3. Jayal 4. Didwana 5. Mundwa 6. Degana 7. Makrana 8. Kuchaman 9. Merta 10. Rian 11. Parvatsar
24.	Pali	1. Jaitaran 2. Raipur 3. Rohit 4. Sojat City 5. Pali 6. Kharchi 7. Rani 8. Sumerpur 9. Desuri 10. Bali
25.	Rajsamand	1. Bhim 2. Deogarh 3. Amet 4. Kumbhalgarh 5. Rajsamand 6. Khamnor 7. Railmagra
26.	Sawai Madhopur	1. Mahwa 2. Todabhim 3. Hindaun 4. Nadoti 5. Gangapur 6. Karauli 6. 7. Bonli 8. Bamanwas 9. Sapotra 11. Khandar
27.	Sikar	1. Fatehpur 2. Lachmangarh 3. Dhood.4. Piprali 5. Danta Ramgarh 6. Khandela 7. Sri Madhopur 8. Neem-ka-Thana
28.	Sirohi	1. Shivganj 2. Sirohi 3. Pindwara 4. Revdar 5. Abu Road
29.	Tonk	1. Malpura 2. Niwai 3. Tonk 4. Toda Rai-Singh 5. Devli 6. Uniara
30.	Udaipur	1. Gogunda 2. Bargaon 3. Mavli 4. Kotra 5. Girwa 6. Bhinder 7. Jhadol 8 Sarada 9. Salumber 10. Dhariawad 11. Khairwara

(Kindly see fig. 6 for details). It (TDS) was also used for recording landscape details as well as number and species of animals encountered throughout the transect which is also survey route. However, except for the few, recording of the landscape details of the transect were discontinued as they were either too macro in nature to develop any meaningful relationship with the distribution of different animals or recording of such data without animals (more prevailing scenario) were of no use. As far as animals were concerned the recording details include herd size, number of adults, sex-ratio whenever possible, and also number of youngs.

As the developmental activities (may be irrigation, electricity, roads, industry etc.) and wildlife dispersal are inversely related, the development blocks(total 236, fig. 7) were adopted as unit for displaying the results of the field survey (table 5).

It is to be noted that during survey operation localities (as short listed and explained above) were the target for search of animals not entire block and the animal counts given here do not represent census of chinkara and desert cat in Rajasthan.

Table–5

Blockwise Results of Field Survey of Chinkara and Desert Cat in Rajasthan

Sr. No.	District & Development block	CHINKARA						DESERT CAT					
		Occurrence reported by		Whether visited	Whether sighted	Indirect evidence	Availability of habitat	Occurrence reported by		Whether visited	Whether sighted	Indirect evidence	Availability of habitat
		Forest official (Y/N)	Villagers (Y/N)	(Y/N)	(Y/N)	(Y/N)	(Y/N)	Forest official (Y/N)	Villagers (Y/N)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1.	**Ajmer**												
1.	Silora	N	?	Y	N		Y	?	Y	Y	N		Y
2.	Pisangar	N	N	Y	N		Y	Y	Y	Y	N	N	Y
3.	Srinagar	N	N	Y	N		Y	?	Y	Y	N	N	Y
4.	Arain	N	N	Y	N		Y	?	Y	Y	N		Y
5.	Jawaja	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y
6.	Masuda	N	N	Y	N	N	N	Y	Y	Y	N	Y	Y
7.	Bhinai	N	Y	Y	N	Y	Y	?	Y	Y	N	Y	Y
8.	Kekri	N	?	Y	N	N	Y	?	N	Y	N	N	Y
	8	1	1	8	0	1	6	3	7	8	1	3	8
2.	**Alwar**												
1.	Nimrana			N						N			
2.	Bahror	Y		N						N			
3.	Mandawar	Y		N				Y		N			
4.	Kot Qasim	Y		N						N			
5.	Tijara	N		N						N			
6.	Bansur	N		N	–					N			

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
7.	Kisangarh Bas	N	–	N						N			
8.	Ramgarh	N		N	–					N			
9.	Thana Gazi	Y	Y	Y	N		Y			Y			
10.	Umrain	Y		Y	N	Y	Y			Y			Y
11.	Rajgarh	N	N	Y	N					Y			
12.	Reni	Y		N				?		N	N		
13.	Govindgarh	N		N						N			
14.	Kathumar	N		N				?		N	N		
	14	6	1	3	0	1	2	1	0	3	0	0	1
3. Baran													
1.	Mangrol (Anta)	Y	Y	Y	N		Y	N		Y	N	N	
2.	Kishanganj	Y	Y	Y	N		Y	Y	Y	Y	N	Y	Y
3.	Shahbad	Y	Y	Y	N		Y	N		y	N	N	
4.	Baran	Y	Y	Y	Y	Y	Y	Y		Y	N	N	Y
5.	Atru	Y	Y	Y	N	Y	Y	N		Y	N		
6.	Chippa Barod	Y	Y	Y	N		Y	Y	Y	Y	N		Y
7.	Chhabra	N		N				N		N			
	7	6	6	6	1	2	6	3	2	6	0	1	3
4. Barmer													
1.	Shiv	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2.	Baytu			N						N			
3.	Barmer	Y	Y	Y	N	Y	Y			Y			

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
4.	Balotra	Y	Y	Y	Y	Y	Y			Y			
5.	Chohtan	Y	Y	Y	Y	Y	Y	?	Y	Y	N	Y	Y
6.	Sindari	Y	Y	Y	Y	Y	Y			Y			
7.	Siwana	Y	Y	Y	N	Y	Y	Y	Y	Y	N	N	Y
8.	Dhorimanna	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
	8	7	7	7	5	7	7	3	4	7	1	3	4
5. Banswara													
1.	Ghatol	Y	Y	Y	N		Y	?	Y	Y	N	Y	Y
2.	Peepal Khoont	Y	?	Y	N		Y			Y	N		Y
3.	Garhi	Y	Y	Y	N		Y		?	Y	N		
4.	Talwara	N		Y	N			?	Y	Y	N	Y	Y
5.	Bagidora	N		N						N			
6.	Anandipuri	N	–	N						N			
7.	Sajjangarh	N		N						N			
8.	Khushalgarh	Y		N			Y			N			
	8	4	2	4	0	0	3	0	2	4	0	2	3
6. Bhilwara													
1.	Asind	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y
2.	Hurdda	Y		N				N		N			
3.	Shahpura	Y		N			Y	N		N			
4.	Mandal	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
5.	Banera	N		Y	N	-	Y	N	?	Y			
6.	Jahazpur	Y	-	N		-		N	-	N			

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
7.	Raipur	Y		N				N		N			
8.	Sahara	N		N				N		N			
9.	Suvana	Y	Y	Y	N		Y	N	?	Y			Y
10.	Kotri	Y	Y	Y	N			N		Y	N	N	Y
11.	Mandalgarh	Y	Y	Y	Y	Y	Y	N		Y	N	N	Y
	11	8	5	6.	2	4	6	2	2	6	0	2	3
7. Bikaner													
1.	Lunkaransar	Y		Y					Y	Y	N		Y
2.	Bikaner	Y	Y	Y	N		Y	?	Y	Y	N	Y	Y
3.	Kolayat	Y	Y	Y	Y	Y	Y	Y	Y	Y	N		Y
4.	Nokha	Y	Y	Y	Y	Y	Y	Y	Y	Y	N		Y
	4	4	3	4	2	2	3	2	4	4	0	1	4
8. Bharatpur													
1.	Kaman	N		N						N			
2.	Nagar	N		N						N			
3.	Deeg	Y	Y	Y	N	Y	Y	?		Y	N		
4.	Nadbai	N		N						N			
5.	Kumher	N	N	Y	N	N	N	?		Y	N		
6.	Sewar	N		N						N			
7.	Wer	Y	Y	Y	N	Y	Y	?	?	Y	N		
8.	Rupbas	N		Y				?	?	Y	N		
9.	Bayana	Y		N			Y			N	-		-
	9	3	2	4	0	2	3	0	0	4	0	0	0

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
9.	**Bundi**												
1.	Neenwa			N				Y		N	N		
2.	Hindoli	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y
3.	Keshorai Patan	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y
4.	Talera	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
	4	3	3	3	0	3	3	4	3	3	1	3	3
10.	**Chittaurgarh**												
1.	Rashmi	Y		Y	N	Y	Y	Y	Y	Y	Y	_	Y
2.	Bhupalsagar	N		N						N			
3.	Kapasan	N		N						N			
4.	Chittorgarh	N		Y	N		Y		Y	Y			Y
5.	Bhadesar	N	Y	Y	N		Y	Y	Y	Y	N	Y	Y
6.	Dungla	Y		Y	N	Y	Y		Y	Y			Y
7.	Nimbahera	?	Y	Y	N		Y	?		Y	N		
8.	Bari Sadri	Y	Y	Y	N	Y	Y	?		Y	N		
9.	Chooti Sardi	N		Y				?		Y	N		
10.	Pratapgarh	N		Y	N	Y	Y	?	Y	Y	N	Y	Y
11.	Arnud	N		N						N			
12.	Begun	N		N						N			
13.	Bhainsr-orgarh	Y	Y	Y	N	Y	Y	?	?	Y	N		Y
	13	4	4	9	0	5	7	2	5	29	1	2	6
11.	**Churu**												
1.	Sardarshahar	N		N						N			

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
2.	Taranagar	N		N					Y	N			Y
3.	Rajgarh	N		N						N			
4.	Churu	N		N						N			
5.	Sri Dungar-garh	Y	Y	Y	Y	Y	Y			Y	N		
6.	Ratangarh	Y	Y	Y	N		Y			Y	N		
7.	Sujangarh	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
	7	3	3	3	2	2	3	1	2	3	0	1	2
12.	**Dausa**												
1.	Bandikui	Y	Y	Y	N	Y	Y			Y	N	N	
2.	Dausa			Y	N					Y	N	N	
3.	Sikrai	Y	Y	Y	N		Y			Y	N		Y
4.	Lalsot			Y	N		Y	Y	Y	Y	N		Y
	4	2	2	4	0	1	3	1	1	4	0	0	2
13.	**Dhaulpur**												
1.	Baseri		?	Y	N		Y	?	Y	Y	N		Y
2.	Bari		?	Y	N		Y	?	Y	Y	N		Y
3.	Dhaulpur	Y	Y	Y	N	Y	Y	?	Y	Y	N	Y	Y
4.	Rajakhera			N						N			
	4	1	1	3	0	1	3	0	3	3	0	1	3
14.	**Dungarpur**												
1.	Bichhiwara			N				Y		N			
2.	Dungarpur			Y	N		Y	?	?	Y	N	Y	Y
3.	Aspur			Y	N		Y	Y	Y	Y	N	Y	Y

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
4.	Sagwara	N	N	Y	N		Y	Y	Y	Y	N	Y	Y
5.	Simalwara	Y		N						N			
	5	1	0	3	0	0	3	3	3	3	0	3	3
15. Ganganagar													
1.	Ganganagar	N		N						N			
2.	Karanpur	N		N						N			
3.	Padampur	N	Y	Y	N		Y	?	Y	Y	N		Y
4.	Sadulshahar	N		N						N			
5.	Raisingh Nagar	N	Y	Y	N		Y			Y	N		
6.	Suratgarh	Y	Y	Y	Y		Y	?	Y	Y	N		Y
7.	Hanumangarh	Y		N						N			
8.	Anupgarh	Y		N						N			
9.	Nohar	Y		N						N			
10.	Bhadra	N		N			--			N			
	10	4	3	3	1	0	3	0	2	3	0	0	2
16. Jaisalmer													
1.	Sam	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2.	Jaisalmer	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
3.	Sankra	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
	3	3	3	3	3	3	3	3	3	3	1	3	3
17. Jaipur													
1.	Kotputli	Y	Y	Y	N		Y		-	Y	N		-
2.	Vairatnagar	N		Y	-	-				Y	N		

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
3.	Shahpura	Y		N	N		Y			N			
4.	Govindgarh	N		N						N			
5.	Amber		N	Y	N		Y	Y	Y	Y	N	Y	Y
6.	Jamwa-Ramgarh	Y	Y	Y	Y		Y	Y	Y	Y	N	Y	Y
7.	Sambhar	Y		Y	N		Y			Y	N		
8.	Dudu	N		Y	N					Y	N		
9.	Sanganer	N		Y	N					Y	N		
10.	Jhotwara	N		N						N			
11.	Bassi			Y	N					Y	N		
12.	Phagi			N						N			
13.	Chaksu			N	N					N			
	13	4	2	8	1	0	5	2	2	8	0	2	2
18.	**Jalore**												
1.	Ahore	Y	Y	Y	N	Y	Y			Y	N		
2.	Saila	Y	Y	Y	N	Y	Y			Y	N		
3.	Jalore	Y	Y	Y	Y		Y	?	Y	Y	N	N	Y
4.	Bhinmal			Y	N					Y	N		
5.	Jaswantpura			Y	N			?	Y	Y	N	Y	Y
6.	Sanchore	Y	Y	Y	Y	Y	Y	?	Y	Y	N	Y	Y
7.	Raniwara	Y	Y	Y	Y	Y	Y			Y	N		
	7	5	5	7	3	4	5	0	3	7	0	2	3
19.	**Jhalawar**												
1.	Khanpur	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
2.	Jhalrapatan	N		Y	N			Y	Y	Y	Y	Y	Y
3.	Manohar-Thana	N		N						N			
4.	Bakani	Y		N						N			
5.	Pirawa	N		N						N			
6.	Dag	Y		N			Y			N			
	6	3	1	2	0	1	2	2	2	2	2	2	2
20. Jhunjhunun													
1.	Alsisar	Y		N						N			
2.	Chirawa	N		N						N			
3.	Surajgarh	N		N						N			
4.	Jhunjhunun			Y						N	N		
5.	Buhana	N		N						N			
6.	Nawalgarh	Y	Y	Y	Y		Y			Y	N		
7.	Udaipurwati	Y	Y	Y	N		Y			Y	N		
8.	Khetri			Y						Y	N		
	8	3	2	4	1	0	2	0	0	4	0	0	0
21. Jodhpur													
1.	Bap	Y	Y	Y	Y		Y	Y	Y	Y	N		Y
2.	Phalodi	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
3.	Shergarh	Y	?	Y	N		Y	?	Y	Y	N		Y
4.	Balesar	Y	Y	Y	Y		Y	Y	Y	Y	N	Y	Y
5.	Osian	?	Y	Y	N		Y		Y	Y			Y
6.	Bhopalgarh	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
7.	Mandore	Y	Y	Y	Y		Y	Y	Y	Y			Y
8.	Luni	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
9.	Bilara	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
	9	8	8	9	7	3	9	7	9	9	3	4	9
22.	**Kota**												
1.	Itawa	N		N				N		N			
2.	Sultanpur	N		N				N		N			
3.	Ladpura	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
4.	Sangod	N		Y	N			Y	Y	Y	N	Y	Y
5.	Chechat	Y	Y	Y	N		Y	N		Y	N		
	5	2	2	3	1	1	2	2	2	3	0	2	2
23.	**Nagur**												
1.	Ladnun	N		N				Y	Y	N			
2.	Nagaur	Y	Y	Y	Y		Y	N		Y	N	Y	Y
3.	Jayal	N		Y	N		Y	Y	Y	Y	N		Y
4.	Didwana	N		N				N			N		
5.	Mundwa	Y	Y	Y	Y		Y	Y	Y	Y	N		Y
6.	Degana	Y	Y	Y	Y		Y			Y	N		Y
7.	Makrana	N	N	Y	N					Y			
8.	Kuchaman	N		N				N			N		
9.	Merta	Y	Y	Y	Y	Y	Y	N	Y	Y	N		Y
10.	Rian	N		N				N			N		
11.	Parvatsar	N		N				N			N		
	11	4	4	6	4	1	5	3	4	6	0	1	5

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
24.	**Pali**												
1.	Jaitaran	-	-	Y	N				-	Y	N		
2.	Raipur	-		Y	N			Y	Y	Y	Y	Y	Y
3.	Rohit	Y	Y	Y	Y		Y		Y	Y	N		Y
4.	Sojat City	Y	Y	Y	N		Y			Y	N		Y
5.	Pali			Y	N					Y	N		
6.	Kharchi	Y	Y	Y	N		Y			Y	N		
7.	Rani	Y		Y	N	Y	Y	N	?	Y	N	N	Y
8.	Sumerpur	?	Y	Y	N	N	Y	Y	Y	Y	N	N	Y
9.	Desuri	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y
10.	Bali	?	N	Y	N	N	Y	Y	Y	Y	Y		Y
	10	5	5	10	2	2	7	4	5	10	2	1	7
25.	**Rajsamand**												
1.	Bhim			Y				Y	Y	Y	N	Y	Y
2.	Deogarh	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y
3.	Amet			N						N			
4.	Kumbbalgarh	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
5.	Rajsamand	Y		Y	N	N	Y		Y	Y	N	Y	Y
6.	Khamnor			Y					Y	Y	N	Y	Y
7.	Railmagra			N						N			
	7	3	2	5	0	2	3	3	5	5	1	5	5
26.	**Sawai Madhopur**												
1.	Mahawa	Y	Y	Y	N	Y	Y		-	Y	N		Y
2.	Todabhim	-		N	-	-	-	-	-			-	-

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
3.	Hindaun	Y	Y	Y	N		Y			Y	N		Y
4.	Nadoti			N									
5.	Gangapur	Y	Y	Y	N		Y			Y	N		Y
6.	Karauli	Y	Y	Y	Y		Y	Y		Y	N	Y	Y
7.	Bonli	Y	Y	Y	N		Y			Y	N		Y
8.	Bamanwas			N									
9.	Sapotra	Y		N				Y		N			
10.	Sawai-Madhopur	Y	Y	Y	Y	Y	Y			Y	N		Y
11.	Khandar	Y	Y	Y	Y		Y			Y	N		Y
	11	8	7	7	3	2	7	2	0	7	0	1	7
27.	**Sikar**												
1.	Fatehpur			Y	N		Y	Y	Y	Y	N		Y
2.	Lachmangarh			Y	N		Y	Y	Y	Y	N		Y
3.	Dhood			N									
4.	Piprali			N									
5.	Danta-Ramgarh-			Y	N		Y	Y	Y	Y	N		Y
6.	Khandela			Y	N		Y			Y	N		Y
7.	Sri Madhopur			Y				Y		N			
8.	Neem-ka-Thana-			Y	N		Y	Y	Y	Y	Y		Y
	8	0	0	5	0	0	5	5	4	5	1	0	5
28.	**Sirohi**												
1.	Shivganj	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y
2.	Sirohi	Y		Y	N		Y	N		Y			
3.	Pindwara	Y		N			Y	N	-	N			

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
4.	Revdar	N		N				N		N			
5.	Abu Road	N		Y	N			N		Y	N		
	5	3	1	3	0	1	3	1	1	3	0	1	1
29. Tonk													
1.	Malpura	N		N				N		N			
2.	Niwai	N		N				N		N			
3.	Tonk	N	N	Y	N			N		Y	N		
4.	Tada Rai-Singh	N		N				N		N			
5.	Devli	Y	Y	Y	N		Y	N	N	Y	N		
6.	Uniara	N	N	Y	N			N	N	Y	N		
	6	1	1	3	0	0	1	0	0	3	0	0	0
30. Udaipur													
1.	Gogunda	N		Y				N	Y	Y	N	N	Y
2.	Bargaon	N		Y				Y	Y	Y	N	N	Y
3.	Mavli	N		N				N		N			
4.	Kotra	Y		Y				Y	Y	Y	Y	N	Y
5.	Girwa	N		N				N		N			
6.	Bhinder	N		Y				N		Y			
7.	Jhadol	N		N				N		N			
8.	Sarada	N		Y	N			N		Y			
9.	Salumber	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
10.	Dhariawad	Y	Y	Y	N		Y	N		Y	N		
11.	Khairwara	N		Y	N			N		Y	N		
	11	3	3	8	1	1	2	3	4	8	1	1	4

Abbreviations used : Y=Yes ; N=No ; =Insufficient/No data ; ? = Not sure.

RESULTS

CHINKARA or INDIAN GAZELLE, *Gazella bennetti* Sykes, 1831

Gazelles inhabit the desert and semi-desert regions of Africa, the Middle East and the Central Asia. They are adapted to subsist in arid conditions. The Indian Gazelle, *Gazella bennetti is* small slender and gracefully built animal, with male bearing annulated horns (maximum length 40 cm.) while females are normally with small, straight, smooth, thin spikes, curving backward without any annulations. But in some females annulations or fudges are visible in the proximal portion of horn (Dunbar Brander, 1923). The chinkara is light chestnut above; white on sides, buttocks, chin, breast and lower parts, tail black, knee brushes dark brown and dark rufous face with white streaks on it. During summer the coat colour is reddish buff with the fur smooth and highly glossy. This is probably an important adaptation for reflecting back some of the sun's rays and thus minimizing heat absorption during the very high day temperatures experienced in its habitat (Roberts, 1977).

Taxonomy

The taxonomic status of chinkara has been a subject of controversy. In the nineteenth century literature the taxonomic nomenclature of chinkara begins with *Gazella bennettii* by Jerdon (1867) and *Gazella bennetti* by Sterndale (1884). Later, Ellerman and Morrison-Scott (1951) and Prater (1971) called it *Gazella gazella*, while Groves (1969) and Corbet (1978) placed it with *Gazella dorcas* group. Agarwal (Quoted from Bohra et al. 1992) opined that *Gazella dorcas* (Groves) and *Gazella gazella* (Pallas) are two distinct species. However, Furley et al. (1988) (Quoted from Rahmani, 1990; Bohra, et al. 1992), based on chromosomal studies, have argued that the chinkara should not be classified as a subspecies of *Gazella gazella* or *Gazella dorcas* but should be established as a distinct species *Gazella bennetti* in its own right. Hence, the latest taxonomic nomenclature is being followed.

Distribution

The earliest distribution records of the chinkara are available from Blanford (1873). He had defined its limits as (Quoted from Sterndale, 1884) "..... throughout Punjab, North-west Provinces, Rajputana, Sind, Kutch, Kathiawar, Guzerat and the whole Bombay Presidency with exception of the western Ghats and low land on Konkan along the western coast, South of the neighbourhood of Daman" Mr. Blanford also reported its sightings in the Narbada and Tapti valleys and Rewah, in Nagpur and Chanda country, Berar the Hyderabad territories, and other parts of Southern India, with a complete exception of the Malabar coast and the adjacent hills. He further adds that,".....from the evidence of Colonel Mc Master and Colonel Douglas Hamilton, it is not known to occur much south of Krishna river nor it is found in the Ganges valley east of Banaras, in Eastern Bihar, the Santal Pergunnahse, Chotia Nagpur, Birbhum, Chhatisgurh, the Mahanadi valley, Orissa, Bastar, and the east coast." The distribution limits given by Blanford (1873) cover nine states (Punjab, Haryana, Rajasthan, Gujarat, Maharashtra, Karnataka, Andhra Pradesh, Madhya Pradesh and Uttar Pradesh) of present day India, beside some parts of Pakistan. On the basis of above information chinkara were well distributed throughout the state of Rajasthan.

Recently, Rahmani (1990a & b) dealt with distribution, density, group size and conservation issues of the Indian gazelle in Rajasthan. His findings were based on six year field notes maintained during studies on great Indian bustard from 1981-87 as the two species share same habiat. The total period spread over 153 days covering eight districts of Rajasthan has generated some base line data for determining spatial distribution and abundance of this beautiful antelope in part of the state.

Habitat Requirements

Jerdon (1874) found that chinkara are never found in forest country and districts having damp climate. They are often met within low thorny jungle. However, as a rule it prefers the open bare plains or low rocky hills or sandy hills or a barren country than richly cultivated and alluvial plains.

Brief Biology and Socio-biology

The chinkara is usually seen in small parties, rarely more than 7 or 8, except in extreme northwest where Jerdon (1874) and Prakash (1994) had seen very

large herds (200). Young expelled bucks are often found in separate herds. Apart from it, single individuals are also of common occurrence. The Indian gazelle is very swift, not particularly wary and when alarmed stamps its fore feet and hisses through the nose hence named chinkara—the Sneezer. The flesh is excellent and is considered better eating than black buck (Jerdon, 1874).

The chinkara though seen roaming and feeding during day time, in the Thar area, the animals have been observed feeding as late as upto 1 a.m. in the cultivated fields. A study conducted on food preference of black buck and chinkara (Bohra and Goyal, 1991) conclude that during the post-monsoon and winter seasons, the chinkara generally prefers the leaves of *Crotalaria burhia* and *Zizyphus nummularia* and also feeds on leaves of *Acacia tortilis* and standing crops of *Bajra* (*Pennisetum typhoides*) and *Moth* (*Phaseolus aconitifolius*) During summer *Eleusine compressa* appears to be the most preferred grass and it also feeds on dry green pods of *Prosopis cineraria*. Bohra et al. (1992) have listed about 13 species of plants, parts of which are consumed by chinkara containing 61 to 86% moisture. However, during survey they have been seen feeding on *Guar*, *Kachri (Cucumis callosus)* and *Tumba*, in Desert National Park area.

Prater (1971) stated that the chinkara, in India, has no particular breeding season. Roberts (1977) reported two rut season for Pakistan population of chinkara. First such rut last from the end of the monsoon up to early October and second, in the late spring from March to the end of April. The gestation period appears to be about five to five-and-half months and twins have been noticed frequently (Dunbar Brander, 1923). Peak littering rate was reported during Feb-March and Aug-Sept. During the survey two youngs were seen one in August and the other in September. They characteristically lie in exposed places with head and neck extended along the ground, making no attempt to get up and escape when approached. The young does not follow mother until they are two to three days old. Roberts (1977) based on captive female reported that they are not sexually mature till two years of age and frequency of oestrus cycle is 28 days.

Nothing is known about their longevity in wild. The young must be susceptible to predation from jackal and wolves. However, during the survey another important aspect of predation was noticed in extensive cultivated areas of Ganganagar and Bikaner, where wolves and jackals have been either eliminated or are very rare. The land-owners of above areas keep good quality pet dogs to keep the black buck and chinkara away from their crop fields. Local people reported that they play an effective role in checking the antelope population as per their desire, at the same time their masters are saved from the clutches of Wildlife (protection) Act.

INDIAN DESERT CAT, *Felis silvestris*, Schreber, 1777

The length of head and body measures about 40-45 cm and tail 25-28 cm. This cat is about the size of domestic cat, fur soft, tapering tail, ears well- developed and pointed, having pale sandy ground colour with small black rounded spots on the body, with smaller elongated spots on the crown and nape running into longitudinal bands. Roberts (1977) adds that tail which is not particularly thick or bushy is spotted in its proximal half with four or five black rings in its distal half. There are small scattered spots around the paws with one broad black ring on the inside of the elbow of the forepaws.The lower surface of the paws is clothed with black fur. The belly fur in winter is long and soft and creamy white with a few indistinct black spots. The head shows small scattered spots on the forehead in contrast to the vertical stripes on the forehead of *Felis bengalensis*. The back of the ears is yellowish buff with darker tips and very small black apical tuft in adults. The prominent white vibrissae measure up to 60 mm. The eyes vary from greenish grey to amber in colour. However, there is considerable individual variation. Some specimens have a more greyish colour of the body fur and others having much heavier spotting.

Taxonomy

While Pocock (1939) described Indian desert cat as *Felis constantine ornata* Gray, merging *Felis torquata* of Blyth. The subsequent authors like Ellerman and Morrison-Scott (1951), Roberts (1977) put it under *Felis libyca*, subspecies *F.l. ornata*. However, Honacki, 1982 (quoting Corbet, 1978 : 181) has merged *Felis libyca* with *Felis silvestris*, Schreber, 1777 In the CITES identification manual (CITES, 1981), twenty-one described sub-species have been attributed to three distinct groups. i) *Silvestris* group, with five subspecies (European), ii) *libyca* group with 11 subspecies (African) and *ornata* group, with five subspecies (Asian). Cats belonging to *ornata* group are smaller than *silvestris*, coat colour vary from pale sandy to fulvescent grey, body marked with numerous dark spots unlike the stripped pattern that runs down from the spinal band in *silvestris* group and tail slightly tapering.

Though different authors put Indian desert cat under different nomenclature, they all agree that throughout its range the desert cats freely interbreed with domestic cats and produce hybrids. Even in wild population there is a great variation in its pelage colour. This project gave me an opportunity to collect photographic evidences of such variations which are presented here. The photographs given here were taken from different localities of Rajasthan during survey period.

They are (1) Ratkuria, Bhopalgarh, Jodhpur

(2) Sendra, Raipur, Pali

Distribution

Prater (1971) has given the distribution of desert cat in the deserts of northwestern India extending into the drier parts of central India. Westward the range extends through the desert land from Sind to northern Africa. Northwards into the steppes of central Asia. According to Blanford (Quoted by Pocock, 1939) this cat ranges from Sind and the Punjab to Saugor and Nagpur about 80° E longitude but very rarely south of Narbada. Recently, Lamba (1967) reported it from near Poona in Maharashtra. However, Sankhla (Anonymous, 1984) stated that in Rajasthan the desert cat does not inhabit forested regions and the area receiving over 60 cm rainfall, approximately east of Aravallis. It is interesting to note that during the present survey, the desert cat was observed in the areas east of Aravalli at two places in Jhalawar district in scrub ravine area and one place each in Bundi and Chittaurgarh district.

Habitat requirements

Scrub, wasteland, grazing land arid croplands are typical habitats of the desert cat where they usually live in their den, dug by them, surrounded by colonies of desert rodents. Sharma (1979) observed that thickets of *Maytenus emarginatus, Acacia modesta, Salvadora* spp. and those particularly of *Capparis decidua* provide suitable haunts for the desert cats. He also observed this cat in saline soil areas with the thickets of *Tamarix dioica, Prosopis juliflora* also provide a suitable habitat for this cat.

Brief Biology

Like most of the Felidae there is no lasting pair bond hence, this cat is either found alone or a mother with her young kittens.

Though it thrives principally on desert rodents, it can also subsist on insects, and reptiles especially during summer. Based on stomach contents of three specimens in Rajasthan desert, Prakash (1959) reported remains of *Meriones hurrianae*, termites, cockroach, beetles, crickets, *Tatera indica* and surprisingly leaves of *Prosopis spicigera*. In Kathiawar another was observed feeding on carrion

(BNHS Report No. 10,1913). Sharma (1979) has observed it hunting hare, doves, grey partridge, sandgrouse, peafowl, bulbuls in jungles and house sparrow, rats, blue rock pigeon in agricultural farms. He also reported desert cat killing, cobra, saw-scaled viper, gecko and scorpions.

Robert (1977) reported that females attain sexual maturity at about 10 months of age and in southern Sind (Pakistan) they appear to be capable of breeding in all seasons of the year. He has also reported gestation period of 56 days and litter size of two to three kittens. Female alone cares and feeds her youngs. They remain well concealed in an underground nest chamber until they are practically weaned. However, Sharma (1979) reported that desert cat breeds in the winter in October and between February to April.

When chased the cat escapes by climbing up a nearby tree (on plate 7 photographs is the result of this habit) or hiding under the thick bushes.The jackal, wolves and stray dogs are main naturat enemies of the desert cat.

DISTRIBUTION AND STATUS

CHINKARA

Presesnt Distribution

The results of the field survey are given blockwise in table 5, and summarised at district level in table 6. The information gathered, was also mapped in fig. 8, to see whether it projects some pattern.

The results of the field survey reveal that except Sikar district occurrence of chinkara has been reported throughout the state. But their sightings are limited to only 15 out of total 27 districts (results of four newly created districts-Baran, Dausa, Hanumangarh and Rajsamand are discussed along with Kota, Jaipur, Ganganagar and Udaipur respectively for the sake of convenience as the topographic and other features of these newly created districts are not available independently).

If we analyze the data at block level, the chinkara has been reported to occur in 120 blocks. Out of this, 100 (83% of 120 positive report blocks) blocks were visited and chinkara was sighted only in 39 of them.

The distribution pattern developed after the present study (fig. 8) indicates that the chinkara population of Rajasthan is shrinking around three nuclei namely, Phalodi (Jodhpur), Bassi (Chittaurgarh) and Dausa (Dausa) in southwestern, southeastern and eastern parts of Rajasthan respectively.

In addition, attempt has also been made to assess the status of chinkara in protected areas of the state. Findings of this assessment are given in table 7 Out of total 25 protected areas (two national parks and 23 sanctuaries) chinkara has been reported to be present in 20 areas, out of it, 18 have been visited and the gazelles were seen only in six of them. However, the situation is diagonally opposite in case of closed areas (table 7), out of total 32 closed areas 14 have been designated with occurrence of chinkara. Surprisingly, the chinkara had been

Table–6

Districtwise summary of status of Chinkara in Rajasthan

DISTRICT	Area (Sq. km.)	Total no. of D.B.	Occurrence reported by forest officials	Occurrence reported by villagers	Total no. of D.B. occurrence reported	Total no. of D.B. with sighting records	Total no. of D.B. visited	Total no. of D.B. with habitat
Ajmer	8481	8	1	1	2	0	8	6
Alwar	8380	14	6	1	6	0	3	2
Banswara	5037	8	4	2	4	0	4	3
Barmer	28387	8	7	7	7	5	7	7
Bharatpur	5066	9	3	2	3	0	4	3
Bhilwara	10455	11	8	5	9	2	6	6
Bikaner	27244	4	4	3	4	2	4	3
Bundi	5550	4	3	3	3	0	3	3
Chittaurgarh	10856	13	4	4	6	0	9	7
Churu	16830	7	3	3	3	2	3	3
Dhaulpur	3034	4	1	1	1	0	3	3
Dungarpur	3770	5	1	0	1	0	3	3
Ganganagar	20634	10	4	3	6	1	3	3
Jaipur & Dausa	14068	17	6	4	6	1	12	8
Jaisalmer	38401	3	3	3	3	3	3	3
Jalore	10640	7	5	5	5	3	7	5
Jhalawar	6219	6	3	1	3	0	2	2
Jhunjhunun	5928	8	3	2	3	1	4	2
Jodhpur	22850	9	8	8	9	7	9	9
Kota & Baran	12436	12	8	8	8	2	9	8
Nagaur	17718	11	4	4	4	4	6	5
Pali	12387	10	5	5	6	2	10	7
Sawai Madhopur	10527	11	8	7	8	3	7	7
Sikar	7732	8	0	0	0	0	5	5
Sirohi	5136	5	3	1	3	0	3	3
Tonk	7194	6	1	1	1	0	3	1
Udaipur & Rajasamand	17279	18	6	5	6	1	13	5
		236	112	89	120	39	153	122

D. B. = Development Blocks

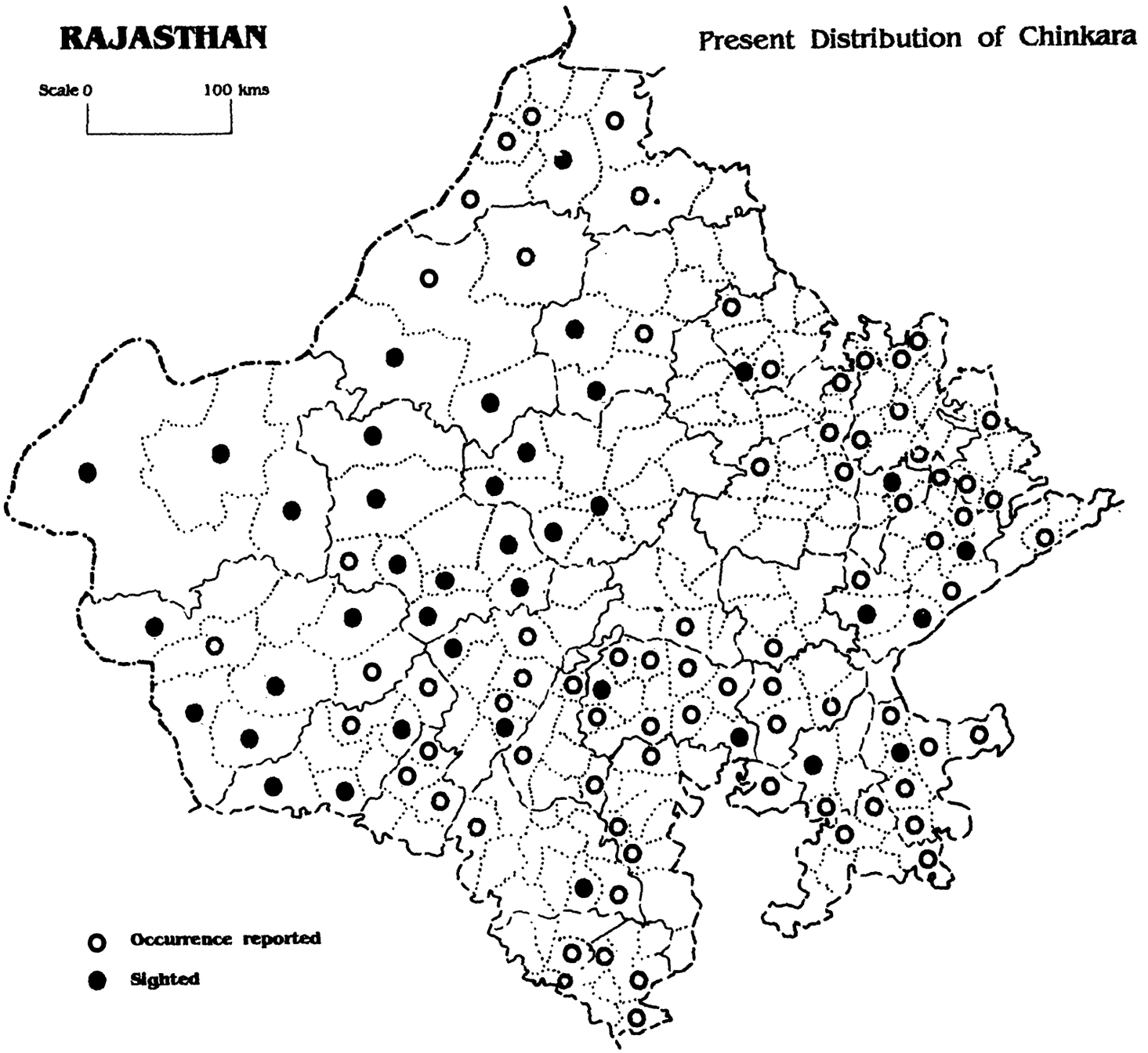


Fig. 8 : Present Distribution of Chinkara in Rajasthan.

Table–7

Occurrence reports and sightings of Chinkara and Desert Cat in protected areas of Rajasthan

Sr. No.	Name of the Protected area	Status (Legal)	Area (sq. km.)	Whether visited	Chinkara		Desert Cat	
					Whether occurrence reported	Whether sighted	Whether occurrence reported	Whether sighted
1.	2.	3.	4.	5.	6.	7.	8.	9.
1.	Bandh Baretha	Sanctuary	192.76	N	Y	N	?	
2.	Bassi	Sanctuary	152.90	Y	Y	N	Y	Y
3.	Bhainsorgarh	Sanctuary	229.14	Y	Y	N	Y	N
4.	Durrah	Sanctuary	265.80	Y	Y	N	N	N
5.	Desert	Sanctuary	3162.00	Y	Y	Y	Y	Y
6.	Phulwari ki Nal	Sanctuary	511.41	N	Y			
7.	Jaisamand	Sanctuary	52.00	Y	Y	Y	Y	N
8.	Jamwa Ramgarh	Sanctuary	300.00	Y	Y	Y	N	N
9.	Jawahar Sagar	Sanctuary	100.00	Y	Y	Y	Y	N
10.	Keladevi	Sanctuary	676.38	Y	Y	Y	Y	N
11.	Keoladeo Ghana	National Park	28.73	Y	N		N	N
12.	Kumbhalgarh	Sanctuary	578.25	Y	Y	N	Y	N
13.	Mt. Abu	Sanctuary	288.84	Y	N	N	N	N
14.	Nahargarh	Sanctuary	50.00	Y	Y	N	Y	N
15.	National Chambal	Sanctuary	280.00	Y	N			
16.	Ranthambore	National Park	392.00	Y	Y	Y	?	N
17.	Ramgarh Vishdhari	Sanctuary	307.00	Y	Y	N	Y	Y
18.	Sajjangarh	Sanctuary	5.19	Y	N	N	N	N
19.	Sariska	Sanctuary	492.00	Y	Y	N	Y	N
20.	Sitamata	Sanctuary	412.94	Y	Y	N	N	N
21.	Sawai Mansingh	Sanctuary	103.25	N	Y			
22.	Shergarh	Sanctuary	98.71	Y	Y	N	?	–
23.	Talchapper	Sanctuary	7.90	Y	Y	N	N	N
24.	Tadgarh Rawali	Sanctuary	495.27	Y	N		Y	N
25.	Van Vihar	Sanctuary	59.93	Y	Y	N	Y	N

(Contd.)

Sr. No.	Name of the Protected area	Status (Legal)	Area (Sq. km.)	Chinkara			Desert Cat	
				Whether visited	Whether occurrence reported	Whether sighted	Whether occurrence reported	Whether sighted
1.	2.	3.	4.	5.	6.	7.	8.	9.
Closed Areas								
1.	Bajju	Closed Area		N	Y			-
2.	Dechu	Closed Area		Y	Y	Y	?	N
3.	Deshnok	Closed Area		Y	Y	Y	Y	N
4.	Dhorimanna	Closed Area		Y	Y	Y	Y	N
5.	Doli	Closed Area		Y	Y	Y	Y	N
6.	Gura Bishnoi	Closed Area		Y	Y	Y	Y	N
7.	Jambeshwarji	Closed Area		Y	Y	Y	Y	N
8.	Lohawat	Closed Area		Y	Y	Y	Y	N
9.	Mukam	Closed Area		Y	Y	Y	Y	N
10.	Ramdeora	Closed Area		Y	Y	Y	Y	N
11.	Sanchor	Closed Area		Y	Y	Y	Y	N
12.	Sathin	Closed Area		Y	Y	Y	Y	Y
13.	Sorsan	Closed Area		Y	Y	Y	?	N
14.	Ujalan	Closed Area		Y	Y	Y	Y	N

Abbreviations used

Y =Yes N = No = Not applicable ? = Not sure

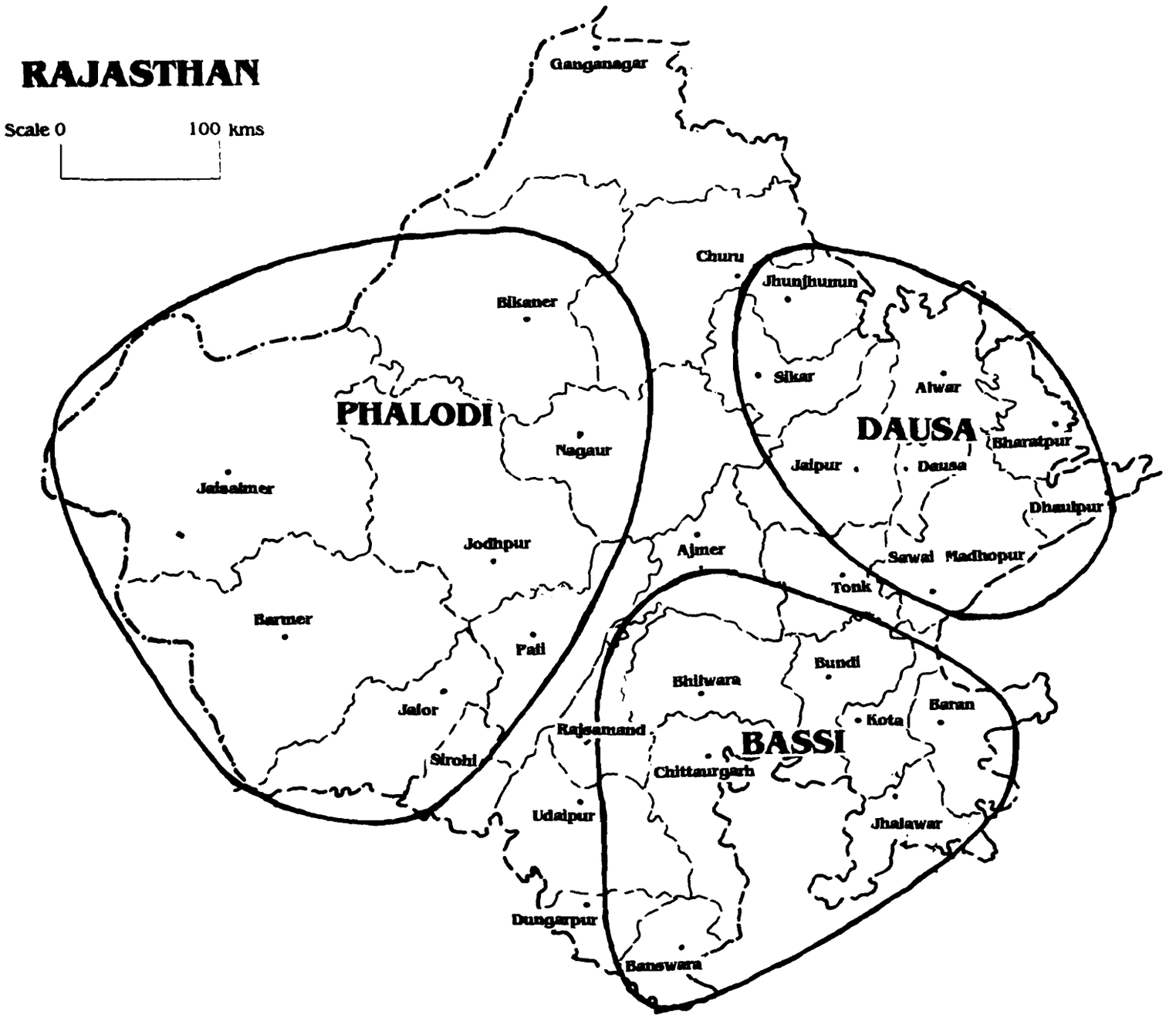


Fig. 9 : Shrinking of Chinkara population around three nuclei.

sighted in all of them except one which could not be visited. Ironically, except Sorsan all of them (closed area) are situated in western Rajasthan.

Herd Size and Relative Abundance

During field survey a total of 725 chinkara were counted which were distributed in 254 herds of different size, ranging from 1 to 28 (table 10). However, the maximium (69%) number of chinkara were seen in the herd size of 1 to 5. As for as the frequency of herd size is concerned it is highest for single animal.

To generate relative abundance of chinkara in fifteen districts with positive report, the percentage of the total recorded population was tabulated (table 9). Jodhpur with about 30% of population ranks first. Along with seven other districts of western Rajasthan (Barmer, Bikaner, Jaisalmer, Jalore, Nagaur, Churu and Pali), the area hold 89% of the total chinkara counted during the survey. The nucleus of this population has been projected at Phalodi, a tehsil of Jodhpur district. The next stronghold of chinkara population is around Bassi nucleus in Chittauargarh district which holds about 9% of the total chinkara, from Kota, Baran, Bhilwara and Udaipur districts. The remaining 1% of the population is distributed around Dausa nucleus in Dausa district which includes Chinkara from Sawai Madhopur, Jhunjhunun, Jaipur and Dausa districts (fig. 9).

Habitat Analysis

Visiting different places in search of animals also gave me an opportunity to record at least availability of primary habitat of target animals. Records maintained during these surveyes have been tabulated blockwise in table 5 and summarised in table 6. It reveals that out of total 153 blocks visited, 122 were with primary habitat including 39 blocks in which chinkara were witnessed. This indicates that in the reported localities (table 6) either chinkara are absent or their population is so thin that they can not be located in the remaining 83 (122 – 39 = 83) development blocks. It also otherwise indicate surplus habitat for chinkara. But in a highly fragmented state in different blocks.

Table–8

District wise summary of status of Desert Cat in Rajasthan

District	Area (sq. km.)	Total no. of D.B.	Occurrence reported by forest officials	Occurrence reported by villagers	Total no. of D. B. occu-rrence reported	Total no. of D. B. with sighting records	Total no. of D. B. visited	Total no. of D. B. with habitat
Ajmer	8481	8	3	7	7	1	8	8
Alwar	8380	14	1	0	1	0	3	1
Banswara	5037	8	0	2	2	0	4	3
Barmer	28387	8	3	4	4	1	7	4
Bharatpur	5066	9	0	0	0	0	4	0
Bhilwara	10455	11	2	2	2	0	6	3
Bikaner	27244	4	2	4	4	0	4	4
Bundi	5550	4	4	3	4	1	3	3
Chittaurgarh	10856	13	2	5	5	1	9	6
Churu	16830	7	1	2	2	0	3	2
Dhaulpur	3034	4	0	3	3	0	3	3
Dungarpur	3770	5	3	3	3	0	3	3
Ganganagar	20634	10	0	2	2	0	3	2
Jaipur & Dausa	14068	17	3	3	3	0	12	4
Jaisalmer	38401	3	3	3	3	1	3	3
Jalore	10640	7	0	3	3	0	7	3
Jhalawar	6219	6	2	2	2	2	2	2
Jhunjhunun	5428	8	0	0	0	0	4	0
Jodhpur	22850	9	7	9	9	3	9	9
Kota & Baran	12436	12	5	4	5	0	9	5
Nagaur	17718	11	3	4	4	0	6	5
Pali	12387	10	4	5	5	2	10	7
Sawai Madhopur	10527	11	2	0	2	0	7	7
Sikar	7732	8	5	4	5	1	5	5
Sirohi	5136	5	1	1	1	0	3	1
Tonk	7194	6	0	0	0	0	3	0
Udaipur & Rajasamand	17279	18	6	9	9	2	13	9
		236	62	84	90	15	153	102

D. B. = Development Blocks

Table–9

Relative abundance of Chinkara in fifteen districts with positive reports and related bio climatic factors.

Sl. No.	District	% of total recorded population	Relative Position	Density of human population 1991 (% charge from 1981) (1 sq. km.)	Main Agro-Climatic Zones	Area of waste-land (in sq. km.) (Relative position)
1	Barmer	19.31	2	50 (11%)	Arid Western Zone (I A)	8443 (3)
2	Bhilwara	0.82	10	152 (27%)	Subhumid Southern plains (IV A)	578
3	Bikaner	13.79	3	44 (13%)	Arid Western Zone (I A)	14329 (2)
4	Churu	1.93	8	91 (21%)	Transitional plains of Inland Drainage (II A)	1173
5	Ganganagar	0.82	11	127 (29%)	Irrigated North West plains (I B)	3373
6	Jaipur & Dausa	0.13	15	335 (91%)	Semi Arid Eastern plains (III A)	870
7	Jaisalmer	10.89	4	9 (3%)	Arid Western Zone (I A)	32060 (1)
8	Jalore	10.20	5	107 (22%)	Luni Basin Transitional plains (II A)	1061
9	Jhunjhunun	0.41	13	264 (60%)	Semi Arid Eastern plains	380
10	Jodhpur	29.79	1	93 (20%)	Arid Western Zone (I A)	5046 (4)
11	Kota & Baran	7.72	6	163 (40%)	Humid South Eastern plains (V)	662
12	Nagaur	1.10	9	121 (29%)	Transitional plains of Inland drainage (II A)	221
13	Pali	2.20	7	120 (17%)	Luni Basin Transitional plains (II B)	166
14	Sawai Madhopur	0.41	12	186 (40%)	Flood prone Eastern plains (III B)	723
15	Udaipur & Rajsamand	0.27	14	167 (31%)	Subhumid Southern plains (IV A)	5219 (5)

Table–10

Frequency of herd size of Chinkara

Herd size	Frequency	Total no. of individuals	% of Total
1	86	86	11.86
2	67	134	18.48
3	44	132	18.20
4	19	76	10.48
5	14	70	9.65
6	10	60	8.27
7	5	35	4.82
8	2	16	2.20
9	1	9	1.24
11	2	22	3.03
13	1	13	1.79
18	1	18	2.48
26	1	26	3.58
28	1	28	3.68
	254	725	100.00

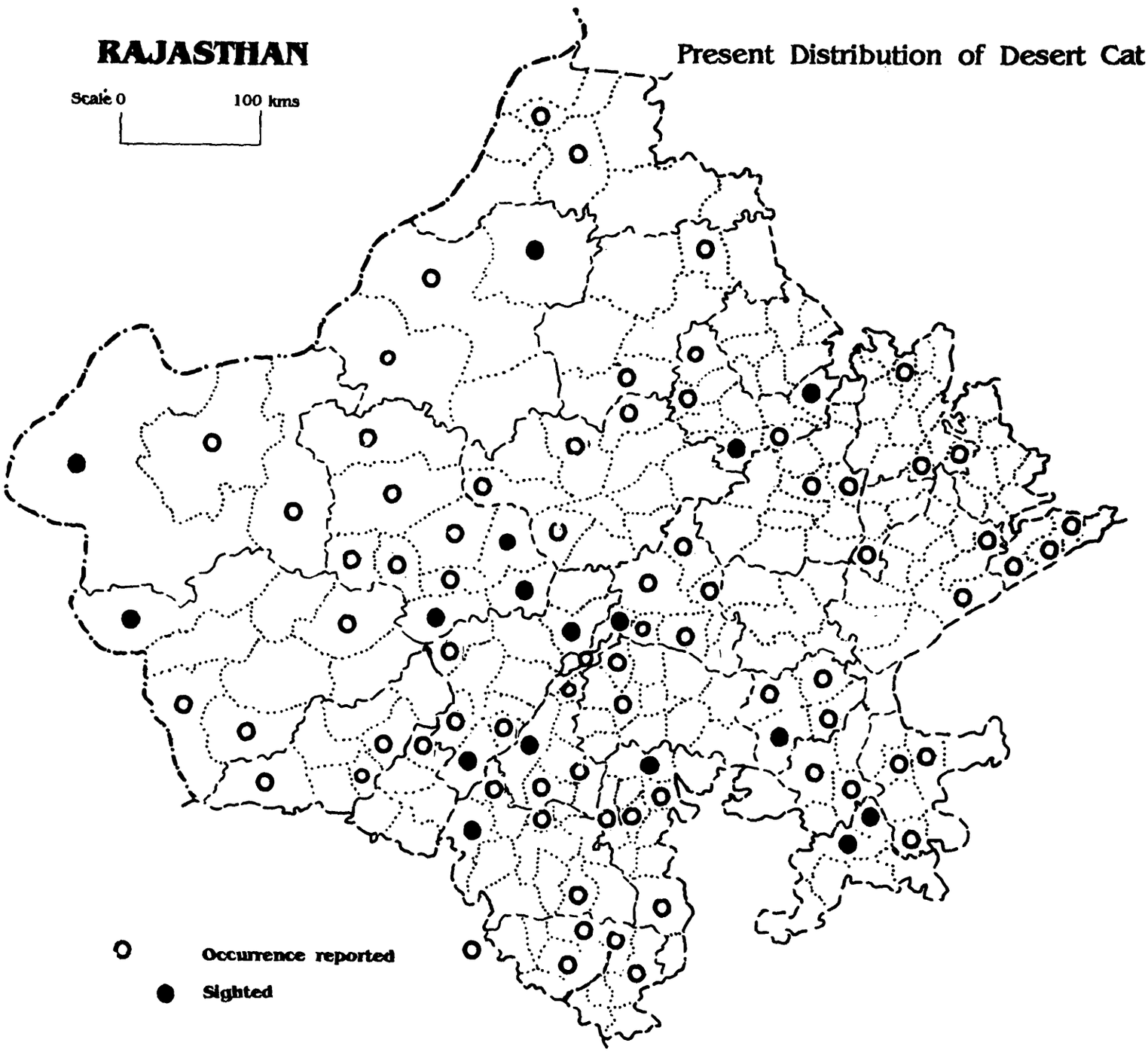


Fig. 10 : Present Distribution of Desert Cat in Rajasthan

DESERT CAT

Present Distribution

The results of the field survey are given blockwise in table 5 and summarised at district level in table 8. The information gathered and shightings recorded were also mapped in fig. 10 which indicates present pattern of the distribution of desert cat in Rajasthan.

The results of the survey reveal that except three districts (Bharatpur, Jhunjhunun and Tonk) the desert cat is reported to occur in all the districts of Rajasthan. However, sighting records of the cat are limited to only ten districts.

At block level it was reported to occur in 90 out of total 236 development blocks. Out of 90 blocks with positive reports, 82 have been personally visited and in only 15 of them the desert cat was witnessed. The map (fig. 10) drawn on the basis of present study indicates patchy distribution of the cat.

Due to its lesser importance as animal of entertainment, smaller size and nocturnal habits, except taxonomists, no other research community has given any serious thought about their whereabouts. The *shepherds,* shikaris and some villagers have some knowledge about them because they are professionally bound to share the habitat which desert cat occupies. Except for the few, most of the staff of the forest department know it, in fact all the lesser cats, as jungle cat. Good quality colour photographs of cats in different postures could only pull them out of this impression and this is exactly what I did. Once the cat is identified one can gather lot of information from field staff, shepherds and villagers.

At the state level the forest department has very little or no information about their distribution. Hence, sanctuary wise figures of their occurrence are not available for the reason discussed above (except for Desert National Park). During survey except for Desert, Bassi and Ramgarh Vishdhari sanctuaries and Sathin closed area, the desert cat was not seen in any of the protected areas, (table 7), though number of them offer very good habitat for this species. Table 11 lists all the localities where 19 cats including two kittens were seen during the field survey.

Habitat Analysis

Though, the sighting of the desert cat are very limited throughout survey period blockwise records of availability of their viable primary habitat was maintained an presented in table 5. It indicates that out of total 236 development blocks, 102 were recorded with availability of potential habitats including 15

blocks where the cat was sighted. The factors responsible for poor sighting of this cat may include poor knowledge of local guides, hiding nature and thin population etc.

Table–11

Sighting Records of Desert Cat

District	Development Block	Number of cats sighted
Ajmer	Jawaja	1
Barmer	Shiv	1
Bundi	Talera	1
Chittaurgarh	Rashmi	1
Jaisalmer	Sam	1
Jhalawar	Khanpur	1
Jhalawar	Jhalrapatan	1
Jodhpur	Bhopalgarh	1+2 Kittens
Jodhpur	Luni	1
Jodhpur	Bilara	1
Pali	Raipur	1
Pali	Bali	1+1+1
Rajsamand (Udaipur)	Kumbhalgarh	1
Sikar	Neem ka Thana	1
Udaipur	Kotra	1
Total 11	15	19

DISCUSSION

CHINKARA

The status of any animal in a region is not merely a reliable census of its local and over all population but must also take note of the important factors of distribution within the country, regional or local variation, habitat preference and their availability, conservation measures taken and its position of importance in context of national and international legislations. The findings of the project are being discussed in light of above factors.

On the basis of table 6 and on proportional basis we can conclude that chinkara population of Rajasthan is at present distributed in at least 47 development blocks which is the most conservative estimate. As for as the scale is concerned, block level scale is most appropriate and practically possible at the moment. But, it is always better to go for finer scale because it gives more accurate area of occupancy figures.

However, the distribution of chinkara population is uneven in Rajasthan and the pattern (fig. 9) developed, as presented in herd size and population section, is tendency towards emerging three subpopulations, because there is little chance of exchange of individuals between such subpopulations due to wide gaps in the continuity of habitat. Except southwest (Phalodi) population the other two areas, eastern (Dausa) and southeastern (Bassi) populations are so fragmented that each locality can be designated as a subpopulation. Mostly in these two areas either the chinkara are confined to newly developed plantation areas of forest department, in the periphery of sanctuaries or in the closed areas. Not only this, their population is so thin in most of the localities of these two areas that even after hours of search, accompanied by experienced local guide, one can see only a group of 2-3 animals.

In light of above the population figures were analysed in terms of relative abundance rather than density of animals. As per figures available (table 9) the southwest (Phalodi) stronghold constitute 89% of total population, southeast (Bassi) 9% and northeast (Dausa) only 1%. The figures speak for themselves as

for as the relative abundance is concerned except for one consideration, that is, the comparative visibility in east and west Rajasthan is diagonally opposite. However, if we analyse the situation, two points further authenticate above findings. Firstly, the localities were the target for search and secondly, comparative lead margin is quite high.

The abundance of chinkara has a clear inclination towards arid western plains, though, they are reported to occur in all of the nine agroclimatic zones of Rajasthan state (table 9). The characteristics of arid western plains are defined in table 1 and their distribution mapped in fig. 3. This zone is generally defined as non-availability of surface and ground water and absence of canals, hence, agricultural output is only single kharif crop and that too irregular. Consequently, the pace of human settlement, is comparatively low. Against the state average growth (28%) of population the area in question has only 10% population growth in last decade (1981–91) and only 130% in comparison to 174% after 1951.

The above discussion lead us to conclude that scrub and wasteland are the primary habitat of the chinkara and its occurrence in other habitats is secondary. It was common throughout the state, and for that matter in other states as well, because of plenty of available wasteland. Gradually, due to better facility for agriculture, especially ground water exploration, development of canal system and tubewells supplemented by motorised irrigation, the wasteland become the first and easy target for reclamation. The best evidence in support of above derivation is the present status of chinkara in Ganganagar district which was a part of arid wasteland till large scale irrigation plans made it the greenery of Rajasthan. Now the chinkara has almost eliminated from the district except for limited and isolated groups that too around a few *Bishnoi* villages.

In order to save typical denizens of scrub waste and desert land, the government has drawn up a mega plan to create a biosphere reserve with a proposed area of about 3100 sq km in Jaisalmer and Barmer districts, in the heart of the desert. Named as Desert Biosphere Reserve, it was also projected as a refuge to wild animals displaced through the fast coming up Indira Gandhi Nahar another mega irrigation project. Now, we have the best example of the outcome of direct conflict between developmental activities and wildlife conservation. The wildlife mega project is now reduced into fragmented pockets and a branch of canal will bisect the originally planned Biosphere Reserve. Moreover, in the plan there are no provisions for corridors to facilitate to and fro movement of animals from different concentration areas.

The extent of area covered by southwestern (Phalodi nucleus) population has no other sanctuary than Desert and Tal Chappar. The Tal Chappar sanctuary has no chinkara and is over populated by black buck. Under the circumstances desert (national park) sanctuary is the only refuge for chinkara population of the area. But as per present study major population of the chinkara has been recorded residing outside the sanctuary. Although, state government has declared number of closed areas (kindly refer table 2) in the above habitat to protect them, it has no control over the land (except for few enclosures). Therefore, the closed area approach can not be considered as effective long term conservation measure and the largest assemblage of the chinkara population of the state is susceptible to any change in the land use pattern in the future.

DESERT CAT

On the basis of table 10 and on proportional basis we can conclude that the desert cat population of Rajasthan is presently distributed in at least 17 development blocks. This is the most conservative figure because of two reasons, first , the nocturnal habits and hiding nature of the cat and second, poor knowledge of informers. However, the magnitude of catches of rolled skins of desert cats by wildlife law enforcing authorities (fig. 11) from poachers support the perception that one can expect more sightings among positive report blocks, provided field staff is well versed with target animal (for details kindly see proposed conservation strategy). However, it is still to be worked out how can cats be counted effectively.

Based on the present survey the distribution of desert cat has emerged as patchy (fig. 10). No meaningful correlation could be drawn with other bio-climatic factors at present except that 11 out of total 19 sightings were from arid western plains.

Another dimension of the desert cat population is their free mixing and breeding with village cat. As a consequence, in several villages of the desert, the cat just resembles the *Felis silvestris ornata* in its external appearance. During the survey photographic evidence of such variations in their coat colour were recorded. It has, therefore, become extremely important to separate out wild and village strains in desert cats through DNA finger printing.

CONSERVATION STRATEGY

In order to develop maps of area of occupancy at finer scale and to cover all the important mammals of the state the talent available at different strata of forest field staff was also surveyed which can be tapped at some later stage. The field survey sheet (FSS) draft copy (fig. 12) is the outcome of such survey.

During field survey and interviews with forest officials and field staff, villagers, shepherds etc. it was felt that they can prove to be very important resource persons to checkout presesnt distribution of wild animals, provided they have basic identifying aids like photographs of animals, their local names, body colour, size etc.. Keeping all these factors in mind, a bilingual, illustrated and self-explanatory field survey sheet (FSS) was designed to cover all the important mammals of Rajasthan. Keeping forest range as a unit it was designed for collectimg information about locality, peripheral locality, habitat, resource persons, distribution and approximate number of wild animals (mammals) in and outside the forest territories throughout the state of Rajasthan.

THE SUNDAY TIMES OF INDIA, NEW DELHI, JANUARY 29 1995 7

CAPITAL &

Police seize 1,018 animal skins

By A Staff Reporter

NEW DELHI, January 28 : The Delhi railway police last night arrested two Kashmiri youths with animal skins worth crores of rupees in international market.

The two accused, Manzoor Ahmed and Mohd Yusuf, were trying to book the seven sacks, containing the skins, to Kanpur at the Old Delhi railway station when they were intercepted by the police.

They were apparently being used as carriers by notorious wildlife smuggler Ghulam Mohammed. The consignment comprised 1018 skins of desert fox and desert cats, both of which are endangered species, listed in Schedule I of Convention on International Trade and Endangered Species (CITES).

Efforts are on to arrest Ghulam Mohammed who allegedly has a widespread smuggling network. Police raided his premises at Ballimaran in Chandni Chowk but he managed to escape, said DCP (crime and railway) Qamar Ahmad while addressing a press conference today. The two accused were also residing at Ballimaran.

During interrogation, Manzoor and Yusuf disclosed that they had been asked to take the skins to tanneries in Kanpur where they were perhaps to be used to make garments. Most of the animals seemed to have been killed recently as many skins still had blood on them. Most of them seemed to have been shot as the skins bore bullet marks.

On the basis of a tip-off, the two youths were intercepted near the godown of Old Delhi railway station by a team comprising inspector R.K. Jha, sub-inspector Ajai Kumar and led by ACP (railway) O.P. Tiwari. They were produced in a court today and remanded to police custody for three days.

According to inspector G.L. Purohit of the wildlife department, the commercial loss might be crores of rupees but it is incalculable in terms of wildlife. He said both the desert fox and desert cat are found in parts of Gujarat and Rajasthan. In other parts of the world, they are only found in the desert regions, he said.

This particular consignment was reportedly obtained by the accused from Bhatinda but it originated in Bikaner. Mr Purohit said there is a huge market for garments made from animal skins, particularly in Germany, Italy and Russia.

Skins of about 30-35 desert fox or desert cats would be required to make one coat, which would approximately cost Rs one lakh in India.

Its value would be more than twice that figure in the international market. Skins of other animals like jackal and fox were also used for the same purpose, said Mr Purohit.

T. Narayan

Officers of Railway police displaying the seized animal skins worth crores of rupees, at a Press conference in New Delhi on Saturday.

Fig. 11 : Photocopy of News item

FIELD SURVEY SHELT फील्ड सर्वे सीट

STATE								RAJASTHAN

PLEASE READ THE INSTRUCTIONS CAREFULLY BEFORE FILLING THIS SHEET
PLEASE DO NOT LAEAVE ANY COLUMN BLANK
TICK (√) APPROPRIATE COLUMN TO REGISTER YOUR REPLY
कृपया इस फील्ड सर्वे सीट के भरने के पहले निर्देशों को ध्यान से पढ़ें।
कृपया कोई कालम खाली न छोड़ें।
उपयुक्त जगह पर सही (√) का निशान लगाकर अपनी जानकारी दर्ज करें।

INFORMATION ABOUT LOCALITY जगह के बारे में जानकारी

Name of forest range/क्षेत्रीय वन का नाम	Area (in hact.)/क्षेत्रफल (हेक्टयर में)	District जिला	Tehsil/तहसील

Mention names of all the forest blocks in your range कृपया आपके रेन्ज के वन ब्लाक के नाम लिखिये

Name of the forest blocks वन ब्लाक का नाम	Area (in hact)/क्षेत्रफल (हेक्टयर में)	Name of nearest village पास के गांव का नाम
01		
02		
03		
04		
05		
06		
07		
08		
09		
10		

Whether full/part of range under Protected Area क्या पूरा रेन्ज या उसका भाग राष्ट्रीय उद्यान/अभयारण्य में आता है?
If yes name यदि हां तो उसका नाम

Sanctuary अभयारण्य	National Park राष्ट्रीय उद्यान	Tiger Reserve प्रोजेक्ट टाइगर	Biosphere Reserve

INFORMATION ABOUT PERIPHERAL LOCALITIES वन रेन्ज के आस पास की जानकारी

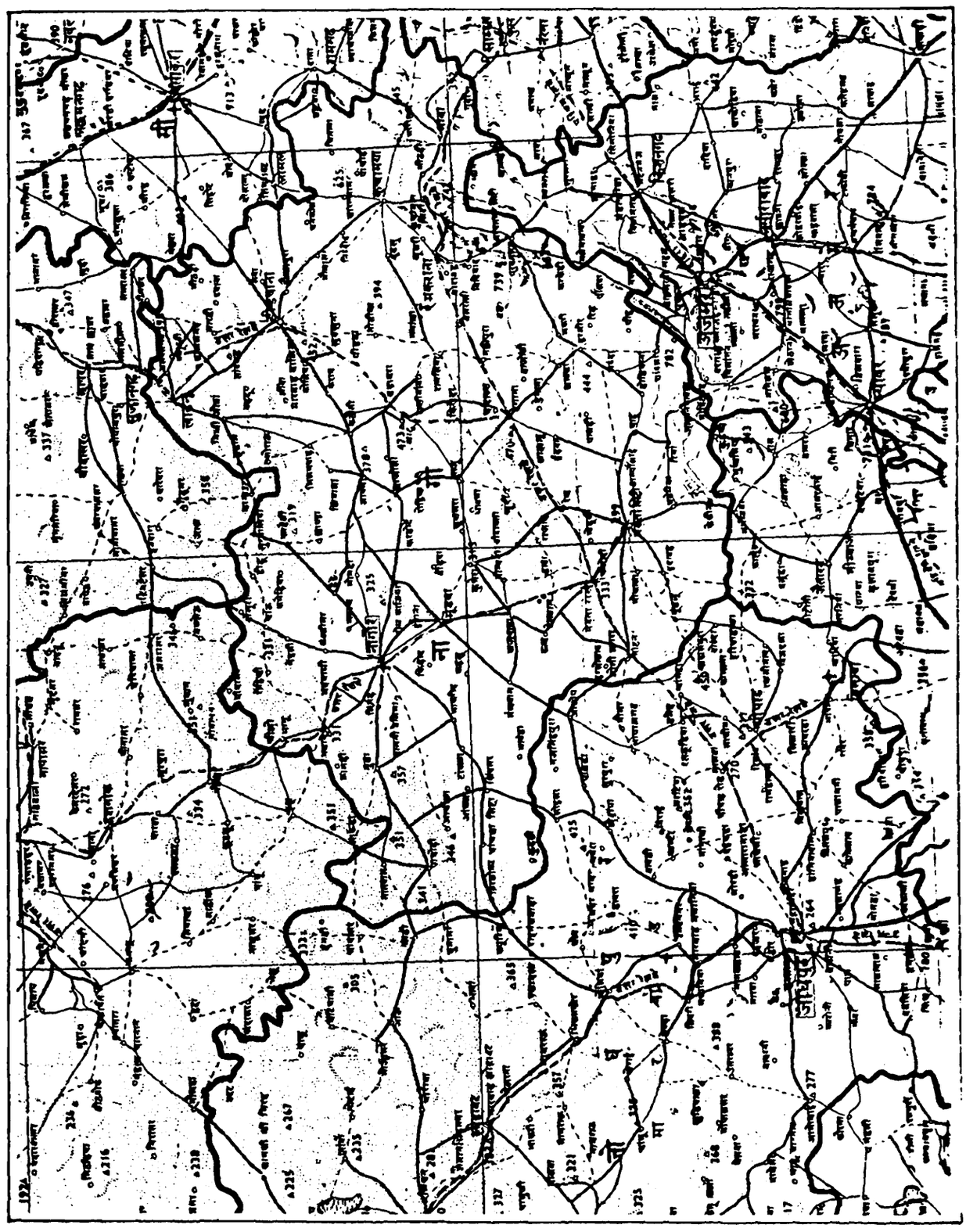
INFORMATION ABOUT PERIPHERAL LOCALITITIES OUTSIDE THE JURISDICTION OF FOREST DEPARTMENT WHICH HOLD WILD ANIMALS
कृपया आपके रेन्ज से लगे हुये ऐसे इलाकों के बारे में जानकारी दें जो वन विभाग की सम्पत्ति नही हैं लेकिन इसमें वन्य जीव हैं।

Name of locality जगह का नाम	Nearest village पास का गांव	Approx. Area (in hact) क्षेत्रफल (करीब करीब) हेक्टयर में	Jurisdiction अधिकार

PLEASE NOTE THAT REPLY TO ALL THE QUERRIES BELOW SHOULD PERTAIN ONLY TO THE LOCALITY AND AREA MENTIONED ABOVE

Fig. 12 : Draft Field Survey Sheet (FSS)

Kindly draw approximate outline of forest range in the District map given below.
कृपया अपने रेन्ज की करीब करीब स्थिति नीचे दिये गये आपके जिले में रेखांकित करें।



INFORMATION ABOUT HABITAT वासस्थान के बारे में जानकारी

one major character

आपके रेन्ज में अक्सर किस तरह का वासस्थान है?

TERRAIN भूमि स्वत:				LAND USE भूमि उद्योग		LAND COVER भूमि ढकाव	
Hilly	☐	Plain	☐	Foresty वन कार्य	☐	Dense Forest घना वन	☐
Sandy	☐	Clayey	☐	Irregation सिंचाई	☐	Open Forest खुला वन	☐
Rubble	☐		☐	Westland पड़ती भूमि	☐	Scrub Forest झाड़ी वन	☐
	☐		☐		☐	Grass land घास वन	☐
	☐		☐		☐	Nacked land नंगी भूमि	☐

Availability of water for wild animals वन्य जीवों के लिये पानी की उपलब्धता

	मौसमी/Annual	Perrenial/बारह मासी		मौसमी/Annual	बारह मासी/Perennial
River नदी	☐	☐	Anicut/ऐनीकट	☐	☐
Pond तालाब	☐	☐	Other (pl specify)	☐	☐
Lake झील			_____	☐	☐
Reservoir जलाशय	☐	☐	_____	☐	☐
	☐	☐	_____	☐	☐

INFORMATION ABOUT RESOURCE PERSONS साधनों के बारे में जानतारी

Please give name and address of three persons whome you consider most knowledgable about the wild animals of your forest range. They may be old employee/retired forest personels or even former shikaries etc

कृपया तीन ऐसे व्यक्तियों के नाम और पते लिखें जिन्हें आपके रेन्ज के वन्य जीवों के बारे में बहुत अच्छी जानकारी है। ऐसे व्यक्ति पुराने कर्मचारी/सेवा निव्रत अधिकारी या कोई पुराना शिकारी भी हो सकते है।

1.	2.	3.
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

INFORMATION ABOUT WILD ANIMALS वन्य जीवों से संवंधित जानकारी

Kindly (√) appropriate column to indicate presence/absence/trend and aproximate present population of each animal separately in the next few pages

To assess size of the animal kindly see scale given alongwith picutre of each animal

To assess colour pattern see entry against colour

कृपया नीचे आगे कुछ पृष्ठों में दी गई वन्य जीवों की तस्वीरों से उन्हे पहचानिए और (√) लगाकर आपके रेन्ज में उनकी उपस्थिती, अनुपस्थिती,, अनुमानित संख्या एवं पिछले पांच वर्षों मे उनकी वस्तुस्थिति से संबंधित जानकारी दें। आपकी सहुलियत के लिऐ वन्य जीव के प्रत्येक चित्र के साथ उनका हिन्दी अंग्रेजी और स्थानीय नाम एवं शरीर का रंग और स्केल दिया गया है ताकि आप उसके आकार प्रकार का सही अंदाज लगा सकें।

OTHER INFORMATION अन्य जानकारी

Whether you require additional sets of Field Survey Sheet for giving information of the areas other than one at your present posting

क्या आपको फील्ड सर्वे के और सेट का आवश्यकतता है ताकि आप अपने रेन्ज के अलावा दूसरी जगहों की जानकारी दे सकें।

No नहीं

If yes number of sets require कितने सेट चाहिए

1	2	3	4	5	6	7	8	9

Please mention names of such localities

Signatureof Evaluator हस्ताक्षर _____

Date _____ Name नाम _____

Place _____ Address पता _____

English name अंग्रेजी नाम
Hanuman Jangur
Scientific name वैज्ञानिक नाम
Presbytis entellus
Hindi name हिन्दी नाम
काले मुंह का बन्दर
Local name स्थानीय नाम
Body colour/शरीर का रंग

Outside Forest range वन रेन्ज के बाहर		Inside Forest range वन रेन्ज में		Absent अनुपस्थित	
		81-90		01-02	If present approx. population between उपस्थित करीब करीब संख्या
		91-100		03-04	
		101-200		05-06	
		201-300		07-08	
		301-400		09-10	
		401-500		11-20	
		501-600		21-30	
		601-700		31-40	
		701-800		41-50	
		801-900		51-60	
		901-1000		61-70	
		above 1000		71-80	
Increasing संख्या बढ़ी रही है					Trend झुकाव
Decreasing संख्या घटी रही है					
Steady संख्या वही रही है					

English name अंग्रेजी नाम
Rhesus
Scientific name वैज्ञानिक नाम
Macaca mulatta
Hindi name हिन्दी नाम
लाल मुंह का बन्दर
Local name स्थानीय नाम
Body colour/शरीर का रंग

Outside Forest range वन रेन्ज के बाहर		Inside Forest range वन रेन्ज में		Absent अनुपस्थित	
		81-90		01-02	If present approx. population between उपस्थित करीब करीब संख्या
		91-100		03-04	
		101-200		05-06	
		201-300		07-08	
		301-400		09-10	
		401-500		11-20	
		501-600		21-30	
		601-700		31-40	
		701-800		41-50	
		801-900		51-60	
		901-1000		61-70	
		above 1000		71-80	
Increasing संख्या बढ़ी रही है					Trend झुकाव
Decreasing संख्या घटी रही है					
Steady संख्या वही रही है					

English name अंग्रेजी नाम
Tiger
Scientific name वैज्ञानिक नाम
Panthera tigris
Hindi name हिन्दी नाम
शेर
Local name स्थानीय नाम
नार धारीदार
Body colour/शरीर का रंग

Outside Forest range वन रेन्ज के बाहर		Inside Forest range वन रेन्ज में		Absent अनुपस्थित	
		81-90		01-02	If present approx. population between उपस्थित करीब करीब संख्या
		91-100		03-04	
		101-200		05-06	
		201-300		07-08	
		301-400		09-10	
		401-500		11-20	
		501-600		21-30	
		601-700		31-40	
		701-800		41-50	
		801-900		51-60	
		901-1000		61-70	
		above 1000		71-80	
Increasing संख्या बढ़ी रही है					Trend झुकाव
Decreasing संख्या घटी रही है					
Steady संख्या वही रही है					

English name अंग्रेजी नाम
Leopard
Scientific name वैज्ञानिक नाम
Panthera pardus
Hindi name हिन्दी नाम
तेंदुआ, चीता
Local name स्थानीय नाम
बघेरा, नार
Body colour/शरीर का रंग

Outside Forest range वन रेन्ज के बाहर		Inside Forest range वन रेन्ज में		Absent अनुपस्थित	
		81-90		01-02	If present approx. population between उपस्थित करीब करीब संख्या
		91-100		03-04	
		101-200		05-06	
		201-300		07-08	
		301-400		09-10	
		401-500		11-20	
		501-600		21-30	
		601-700		31-40	
		701-800		41-50	
		801-900		51-60	
		901-1000		61-70	
		above 1000		71-80	
Increasing संख्या बढ़ी रही है					Trend झुकाव
Decreasing संख्या घटी रही है					
Steady संख्या वही रही है					

English name अंग्रेजी नाम
Sloth bear
Scientific name वैज्ञानिक नाम
Melursus ursinus
Hindi name हिन्दी नाम
भालू
Local name स्थानीय नाम
रीछ
Body colour/शरीर का रंग

Outside Forest range वन रेन्ज के बाहर		Inside Forest range वन रेन्ज में		Absent अनुपस्थित	
		81-90		01-02	If present approx. population between उपस्थित करीब करीब संख्या
		91-100		03-04	
		101-200		05-06	
		201-300		07-08	
		301-400		09-10	
		401-500		11-20	
		501-600		21-30	
		601-700		31-40	
		701-800		41-50	
		801-900		51-60	
		901-1000		61-70	
		above 1000		71-80	
Increasing संख्या बढ़ी रही है					Trend झुकाव
Decreasing संख्या घटी रही है					
Steady संख्या वही रही है					

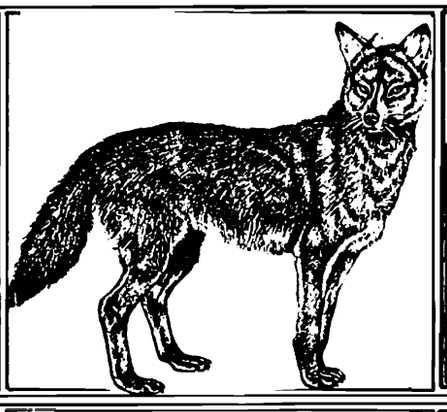
English name अंग्रेजी नाम
Indian wolf

Scientific name वैज्ञानिक नाम
Canis lupus

Hindi name हिन्दी नाम
भेड़िया

Local name स्थानीय नाम
खातनार

Body colour/ शरीर का रंग



Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend. प्रवृत्ति

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

English name अंग्रेजी नाम
Red fox

Scientific name वैज्ञानिक नाम
Vulpes vulpes

Hindi name हिन्दी नाम
लोमड़ी

Local name स्थानीय नाम
लोकड़ी

Body colour/ शरीर का रंग

Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend. प्रवृत्ति

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

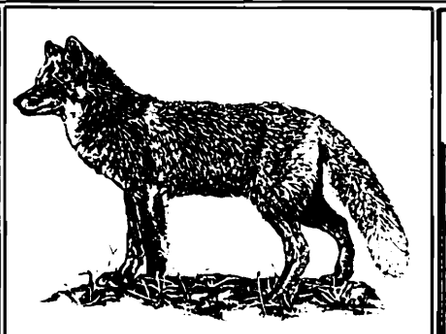
English name अंग्रेजी नाम
Indian fox

Scientific name वैज्ञानिक नाम

Hindi name हिन्दी नाम
लोमड़ी

Local name स्थानीय नाम
लोकड़ी

Body colour/ शरीर का रंग



Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend. प्रवृत्ति

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

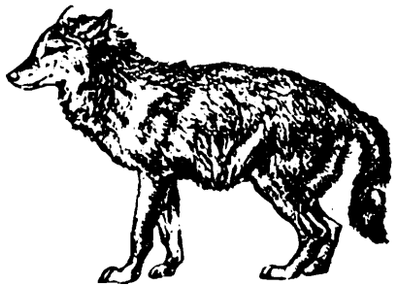
English name अंग्रेजी नाम
Jackal

Scientific name वैज्ञानिक नाम
Canis aureus

Hindi name हिन्दी नाम
गीदड़

Local name स्थानीय नाम
सियाल

Body colour/ शरीर का रंग



Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend. प्रवृत्ति

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

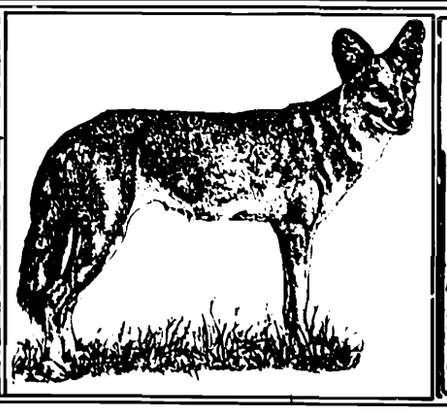
English name अंग्रेजी नाम
Wild dog

Scientific name वैज्ञानिक नाम
Cuon alpinus

Hindi name हिन्दी नाम
जंगली कुत्ता

Local name स्थानीय नाम

Body colour/ शरीर का रंग



Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend. प्रवृत्ति

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

English name अंग्रेजी नाम
Caracal
Scientific name वैज्ञानिक नाम
Felis caracal
Hindi name हिन्दी नाम
स्याह गुश
Local name स्थानीय नाम
Body colour/शरीर का रंग

Outside Forest range वन रेन्ज के बाहर	Inside Forest range वन रेन्ज में	Absent अनुपस्थित	If present, approx. population between उपस्थित करीब करीब संख्या	Trend झुकाव
	81-90	01-02		
	91-100	03-04		
	101-200	05-06		
	201-300	07-08		
	301-400	09-10		
	401-500	11-20		
	501-600	21-30		
	601-700	31-40		
	701-800	41-50		
	801-900	51-60		
	901-1000	61-70		
	above 1000	71-80		
Increasing संख्या बढ़ी रही है				
Decreasing संख्या घटी रही है				
Steady संख्या वही रही है				

English name अंग्रेजी नाम
Desert cat
Scientific name वैज्ञानिक नाम
Felis sylvestris
Hindi name हिन्दी नाम
मरु बिल्ली
Local name स्थानीय नाम
रोज मन्ना, रेगू बिल्ला
Body colour/शरीर का रंग

Outside Forest range वन रेन्ज के बाहर	Inside Forest range वन रेन्ज में	Absent अनुपस्थित	If present, approx. population between उपस्थित करीब करीब संख्या	Trend झुकाव
	81-90	01-02		
	91-100	03-04		
	101-200	05-06		
	201-300	07-08		
	301-400	09-10		
	401-500	11-20		
	501-600	21-30		
	601-700	31-40		
	701-800	41-50		
	801-900	51-60		
	901-1000	61-70		
	above 1000	71-80		
Increasing संख्या बढ़ी रही है				
Decreasing संख्या घटी रही है				
Steady संख्या वही रही है				

English name अंग्रेजी नाम
Leopard cat
Scientific name वैज्ञानिक नाम
Hindi name हिन्दी नाम
चीता बिल्ली
Local name स्थानीय नाम
Body colour/शरीर का रंग

Outside Forest range वन रेन्ज के बाहर	Inside Forest range वन रेन्ज में	Absent अनुपस्थित	If present, approx. population between उपस्थित करीब करीब संख्या	Trend झुकाव
	81-90	01-02		
	91-100	03-04		
	101-200	05-06		
	201-300	07-08		
	301-400	09-10		
	401-500	11-20		
	501-600	21-30		
	601-700	31-40		
	701-800	41-50		
	801-900	51-60		
	901-1000	61-70		
	above 1000	71-80		
Increasing संख्या बढ़ी रही है				
Decreasing संख्या घटी रही है				
Steady संख्या वही रही है				

English name अंग्रेजी नाम
Jungle cat
Scientific name वैज्ञानिक नाम
Felis chaus
Hindi name हिन्दी नाम
जंगली बिल्ली
Local name स्थानीय नाम
Body colour/शरीर का रंग

Outside Forest range वन रेन्ज के बाहर	Inside Forest range वन रेन्ज में	Absent अनुपस्थित	If present, approx. population between उपस्थित करीब करीब संख्या	Trend झुकाव
	81-90	01-02		
	91-100	03-04		
	101-200	05-06		
	201-300	07-08		
	301-400	09-10		
	401-500	11-20		
	501-600	21-30		
	601-700	31-40		
	701-800	41-50		
	801-900	51-60		
	901-1000	61-70		
	above 1000	71-80		
Increasing संख्या बढ़ी रही है				
Decreasing संख्या घटी रही है				
Steady संख्या वही रही है				

English name अंग्रेजी नाम
Rusty spotted cat
Scientific name वैज्ञानिक नाम
Felis rubiginosa
Hindi name हिन्दी नाम
Local name स्थानीय नाम
Body colour/शरीर का रंग

Outside Forest range वन रेन्ज के बाहर	Inside Forest range वन रेन्ज में	Absent अनुपस्थित	If present, approx. population between उपस्थित करीब करीब संख्या	Trend झुकाव
	81-90	01-02		
	91-100	03-04		
	101-200	05-06		
	201-300	07-08		
	301-400	09-10		
	401-500	11-20		
	501-600	21-30		
	601-700	31-40		
	701-800	41-50		
	801-900	51-60		
	901-1000	61-70		
	above 1000	71-80		
Increasing संख्या बढ़ी रही है				
Decreasing संख्या घटी रही है				
Steady संख्या वही रही है				

English name अंग्रेजी नाम
Smooth Indian otter

Scientific name वैज्ञानिक नाम
Lutre perspicillate

Hindi name हिन्दी नाम
उदबिलाव

Local name स्थानीय नाम
जलमानुस

Body colour/ शरीर का रंग

Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend प्रवृत्ति
Increasing संख्या बढ़ी है
Decreasing संख्या घटी है
Steady संख्या वही है

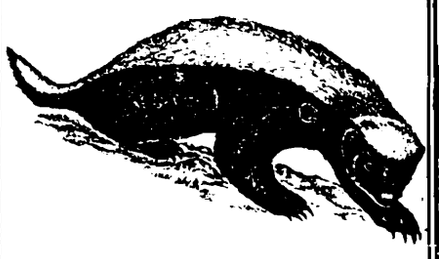
English name अंग्रेजी नाम
Ratel

Scientific name वैज्ञानिक नाम
Melivora capensis

Hindi name हिन्दी नाम
बिज्जू

Local name स्थानीय नाम
कत्ता सोद

Body colour/ शरीर का रंग



Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend प्रवृत्ति
Increasing संख्या बढ़ी है
Decreasing संख्या घटी है
Steady संख्या वही है

English name अंग्रेजी नाम
Hyaena

Scientific name वैज्ञानिक नाम
Hyaene hyaena

Hindi name हिन्दी नाम
लकड़ बग्घा

Local name स्थानीय नाम
जरक

Body colour/ शरीर का रंग

Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend प्रवृत्ति
Increasing संख्या बढ़ी है
Decreasing संख्या घटी है
Steady संख्या वही है

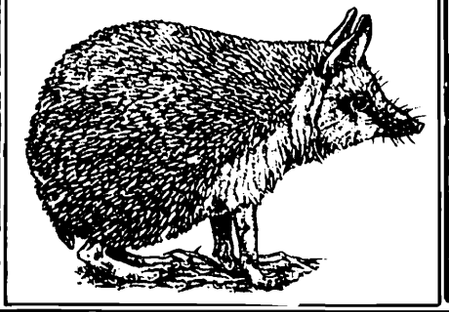
English name अंग्रेजी नाम
Longeared hedgehog

Scientific name वैज्ञानिक नाम
Hemiechinus auritus

Hindi name हिन्दी नाम

Local name स्थानीय नाम

Body colour/ शरीर का रंग



Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend प्रवृत्ति
Increasing संख्या बढ़ी है
Decreasing संख्या घटी है
Steady संख्या वही है

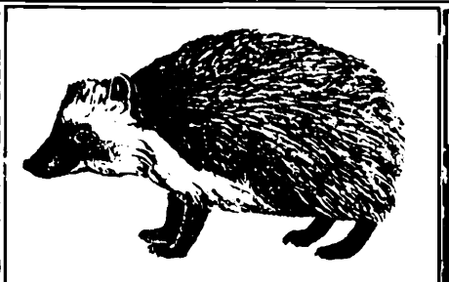
English name अंग्रेजी नाम
Pale hedgehog

Scientific name वैज्ञानिक नाम
Paraechinus micropus

Hindi name हिन्दी नाम

Local name स्थानीय नाम

Body colour/ शरीर का रंग



Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend प्रवृत्ति
Increasing संख्या बढ़ी है
Decreasing संख्या घटी है
Steady संख्या वही है

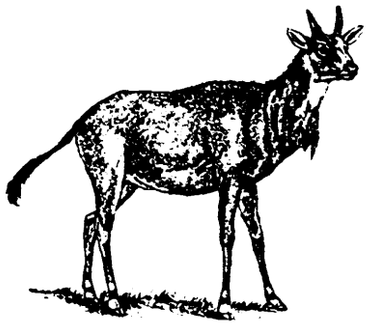
English name अंग्रेजी नाम
Nilgai

Scientific name वैज्ञानिक नाम
Boselaphus tragocamelus

Hindi name हिन्दी नाम
नीलगाय

Local name स्थानीय नाम

Body colour/ शरीर का रंग



Outside Forest range वन क्षेत्र के बाहर | Inside Forest range वन क्षेत्र में | Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend झुकाव

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

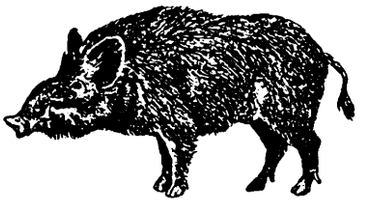
English name अंग्रेजी नाम
Indian wild boar

Scientific name वैज्ञानिक नाम
Sus scrofa

Hindi name हिन्दी नाम
जंगली सुअर

Local name स्थानीय नाम

Body colour/ शरीर का रंग



Outside Forest range वन क्षेत्र के बाहर | Inside Forest range वन क्षेत्र में | Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend झुकाव

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

English name अंग्रेजी नाम
Indian porcupine

Scientific name वैज्ञानिक नाम
Hystrix indica

Hindi name हिन्दी नाम
सेही

Local name स्थानीय नाम

Body colour/ शरीर का रंग

Outside Forest range वन क्षेत्र के बाहर | Inside Forest range वन क्षेत्र में | Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend झुकाव

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

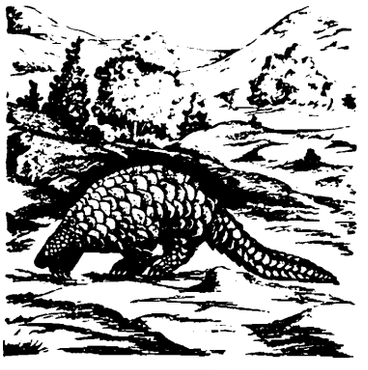
English name अंग्रेजी नाम
Indian pangolin

Scientific name वैज्ञानिक नाम
Manis crassicaudata

Hindi name हिन्दी नाम
बड़ा कवट

Local name स्थानीय नाम

Body colour/ शरीर का रंग



Outside Forest range वन क्षेत्र के बाहर | Inside Forest range वन क्षेत्र में | Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend झुकाव

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

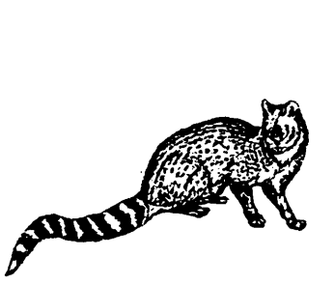
English name अंग्रेजी नाम

Scientific name वैज्ञानिक नाम
Herpestes auropunctatus

Hindi name हिन्दी नाम

Local name स्थानीय नाम

Body colour/ शरीर का रंग



Outside Forest range वन क्षेत्र के बाहर | Inside Forest range वन क्षेत्र में | Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend झुकाव

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

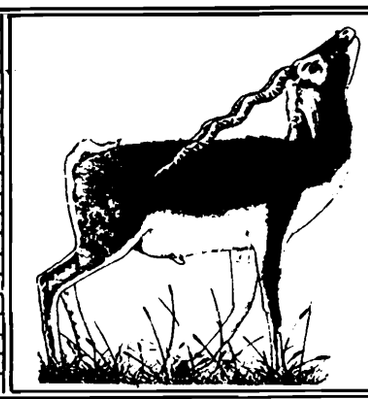
English name अंग्रेजी नाम
Black buck

Scientific name वैज्ञानिक नाम
Antilope cervicapra

Hindi name हिन्दी नाम
काला मृग

Local name स्थानीय नाम

Body colour/ शरीर का रंग



Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend प्रवृत्ति

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

English name अंग्रेजी नाम
Indian gazelle

Scientific name वैज्ञानिक नाम
Gazella gazella

Hindi name हिन्दी नाम
चिंकारा

Local name स्थानीय नाम

Body colour/ शरीर का रंग

Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend प्रवृत्ति

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

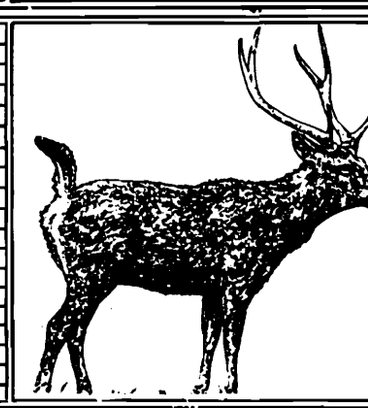
English name अंग्रेजी नाम
Sambar

Scientific name वैज्ञानिक नाम
Cervus unicolor

Hindi name हिन्दी नाम
सांभर

Local name स्थानीय नाम

Body colour/ शरीर का रंग



Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend प्रवृत्ति

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

English name अंग्रेजी नाम
Chital

Scientific name वैज्ञानिक नाम
Axix axix

Hindi name हिन्दी नाम
चीतल

Local name स्थानीय नाम

Body colour/ शरीर का रंग

Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend प्रवृत्ति

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

English name अंग्रेजी नाम
Four-horned antelope

Scientific name वैज्ञानिक नाम
Tetraceros quadricornis

Hindi name हिन्दी नाम
चौसिंघा

Local name स्थानीय नाम

Body colour/ शरीर का रंग

Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित

If present approx. population between
उपस्थित करीब करीब संख्या

01-02	03-04	05-06	07-08	09-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80

81-90	91-100	101-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	above 1000

Trend प्रवृत्ति

Increasing संख्या बढ़ी है	Decreasing संख्या घटी है	Steady संख्या वही है

English name अंग्रेजी नाम

Scientific name वैज्ञानिक नाम
Herpestes edwardsi

Hindi name हिन्दी नाम
नेवला

Local name स्थानीय नाम
नेल्या

Body colour/ शरीर का रंग

Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित
If present approx. population between उपस्थित करीब करीब संख्या
01-02 | 03-04 | 05-06 | 07-08 | 09-10 | 11-20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80
81-90 | 91-100 | 101-200 | 201-300 | 301-400 | 401-500 | 501-600 | 601-700 | 701-800 | 801-900 | 901-1000 | above 1000
Trend प्रवृत्ति
Increasing संख्या बढ़ी है
Decreasing संख्या घटी है
Steady संख्या वही है

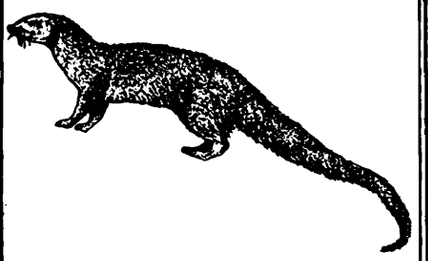
English name अंग्रेजी नाम

Scientific name वैज्ञानिक नाम
Herpestes auropunctatus

Hindi name हिन्दी नाम

Local name स्थानीय नाम

Body colour/ शरीर का रंग



Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित
If present approx. population between उपस्थित करीब करीब संख्या
01-02 | 03-04 | 05-06 | 07-08 | 09-10 | 11-20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80
81-90 | 91-100 | 101-200 | 201-300 | 301-400 | 401-500 | 501-600 | 601-700 | 701-800 | 801-900 | 901-1000 | above 1000
Trend प्रवृत्ति
Increasing संख्या बढ़ी है
Decreasing संख्या घटी है
Steady संख्या वही है

English name अंग्रेजी नाम

Scientific name वैज्ञानिक नाम

Hindi name हिन्दी नाम

Local name स्थानीय नाम
लाल मुँह का नेल्या

Body colour/ शरीर का रंग

Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित
If present approx. population between उपस्थित करीब करीब संख्या
01-02 | 03-04 | 05-06 | 07-08 | 09-10 | 11-20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80
81-90 | 91-100 | 101-200 | 201-300 | 301-400 | 401-500 | 501-600 | 601-700 | 701-800 | 801-900 | 901-1000 | above 1000
Trend प्रवृत्ति
Increasing संख्या बढ़ी है
Decreasing संख्या घटी है
Steady संख्या वही है

English name अंग्रेजी नाम

Scientific name वैज्ञानिक नाम

Hindi name हिन्दी नाम

Local name स्थानीय नाम

Body colour/ शरीर का रंग

Kindly give information about those wild animals not listed above but find in your forest range and whose population is declining very fast.

यहां किसी ऐसे जंगली जानवर के बारे में जानकारी दीजिए जो इस लिस्ट में शामिल नही है और आपके वन क्षेत्र में पाये जाते है एवं इनकी संख्या तीव्र गति से कम हो रही है।

Outside Forest range वन क्षेत्र के बाहर
Inside Forest range वन क्षेत्र में
Absent अनुपस्थित
If present approx. population between उपस्थित करीब करीब संख्या
01-02 | 03-04 | 05-06 | 07-08 | 09-10 | 11-20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80
81-90 | 91-100 | 101-200 | 201-300 | 301-400 | 401-500 | 501-600 | 601-700 | 701-800 | 801-900 | 901-1000 | above 1000
Trend प्रवृत्ति
Increasing संख्या बढ़ी है
Decreasing संख्या घटी है
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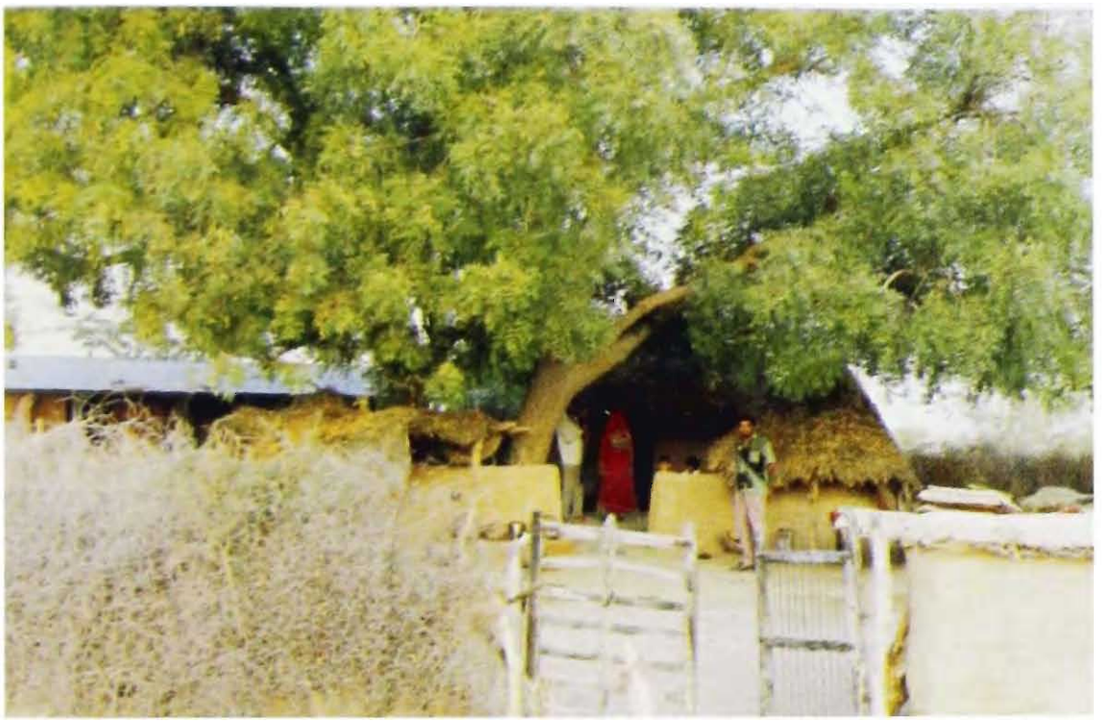
PLATE—1

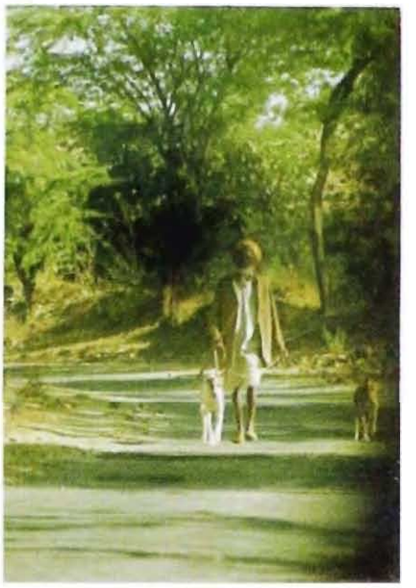


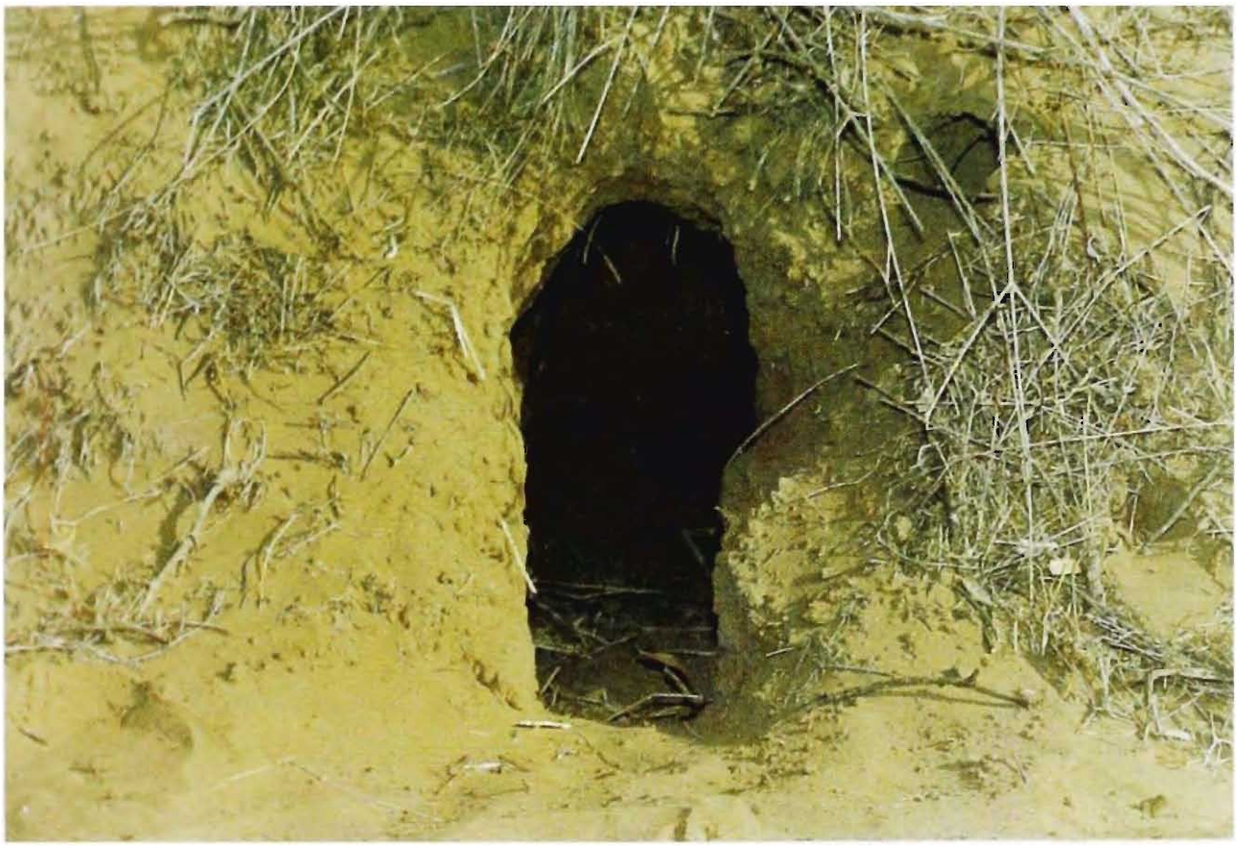
The communities and their culture have played an important role in wildlife as well as nature conservation. The contribution of *Bishnois* to save environment in Rajasthan and adjoining Haryana is unparellel. Even settlements of *Bishnois* (above) and others (below) speak for it and at larger scale the impact of man and his attitude towards wildlife has reached to such an extent that now-a-days the distribution map of animal loving communities are the distribution map of wildlife.

PLATE—2

Other than chinkara the black buck (above) and the nilgai (below) are two other antelopes of the desert environment. Both of them are sustaining well in comparison to chinkara.

PLATE—3





The *shikaris* (above right), villagers and shepherds provided meaningful information about the target animals. The presence of scats (above left) and active burrows/dens (below) were also some of the indirect evidences of animals' presence.

PLATE—4

The pug-marks (below) of target animals chinkara (above) and desert cat (below) were one of the indirect evidences of their presence.

PLATE—5

The Indian gazelle or chinkara is slender and gracefully built animal with male (above) bearing annulated horns and female (below) with small, straight, smooth and thin spikes, curving backward with fidges in the proximal portions of some.

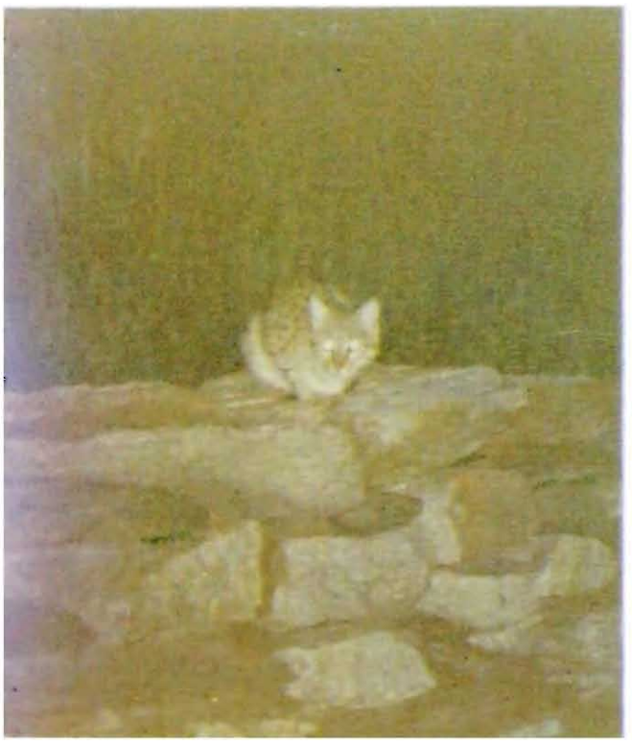
PLATE—6

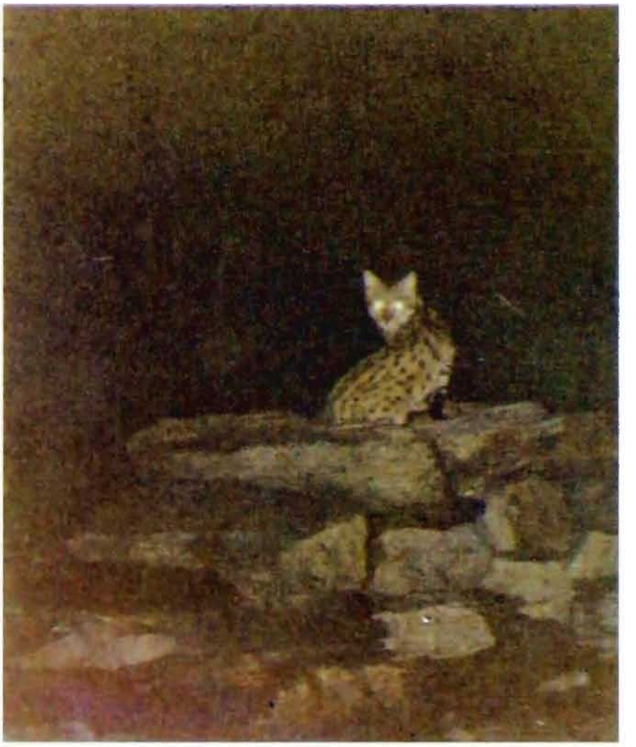
The Indian gazelle in summer coat (above). Smooth and glossy fur is an adaptation for reflecting back some of sun's rays' thus minimising heat absorption. However, during very high day-time termperature, when their diurnal activity is at its lowest ebb, they take shelter under shady areas (below).

PLATE—7

The desert cat is about the size of domestic cat with pale sandy ground colour; elongated ears (above), the back of the ears is yellowish buff; small elongated spots on the crown and black spots over the body (below).

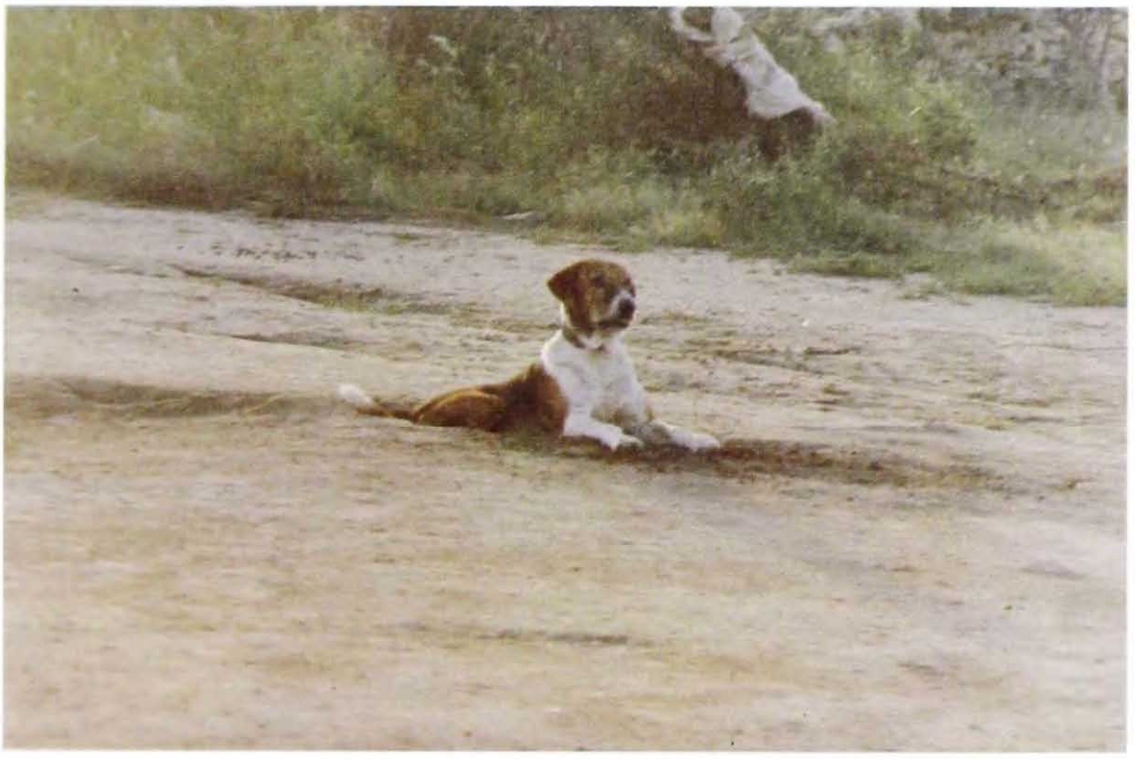
PLATE—8





The coat colour of Desert cat in the denuded rocky habitats of Aravallis possess greyis hue (above), moreover, the loosely piled stones (below), harbour abundant of rodent population for the desert cat to feed upon.

PLATE—9



The characteristic posture of youngs with head and neck extended along the ground (above). Initially they do not follow their mother hence, most susceptible to natural predators like wolf and jackal. However, a new predator, good quality watchdog (below), kept by farmers is another threat to chinkara population in extensive cultivation areas.

PLATE—10

The chinkara are selective in consuming low fibre and high protein content feeds like *Moong* (above) and high moisture content fruits like *Kachri* (middle) and *Tumba* (below)

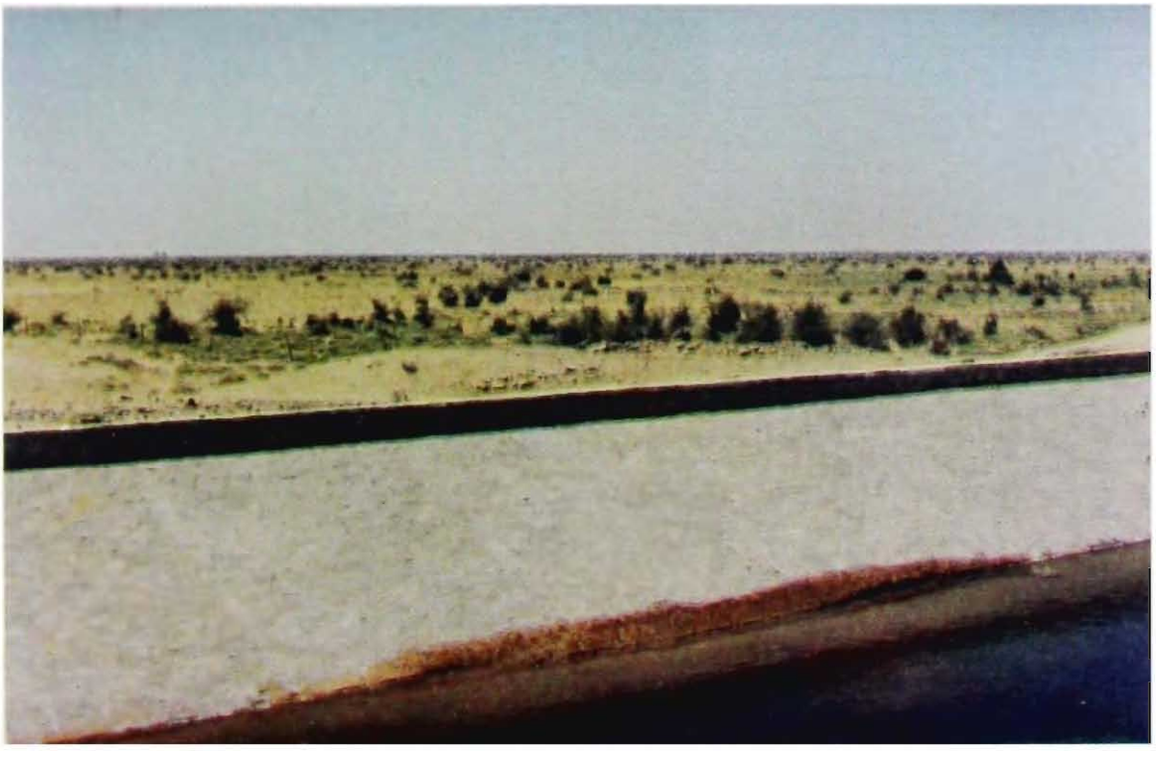
PLATE—11

The desert cat (above) is frequently breeding with the village cat resulting in hybrid (below) population having characteristics of both the cats.

PLATE—12

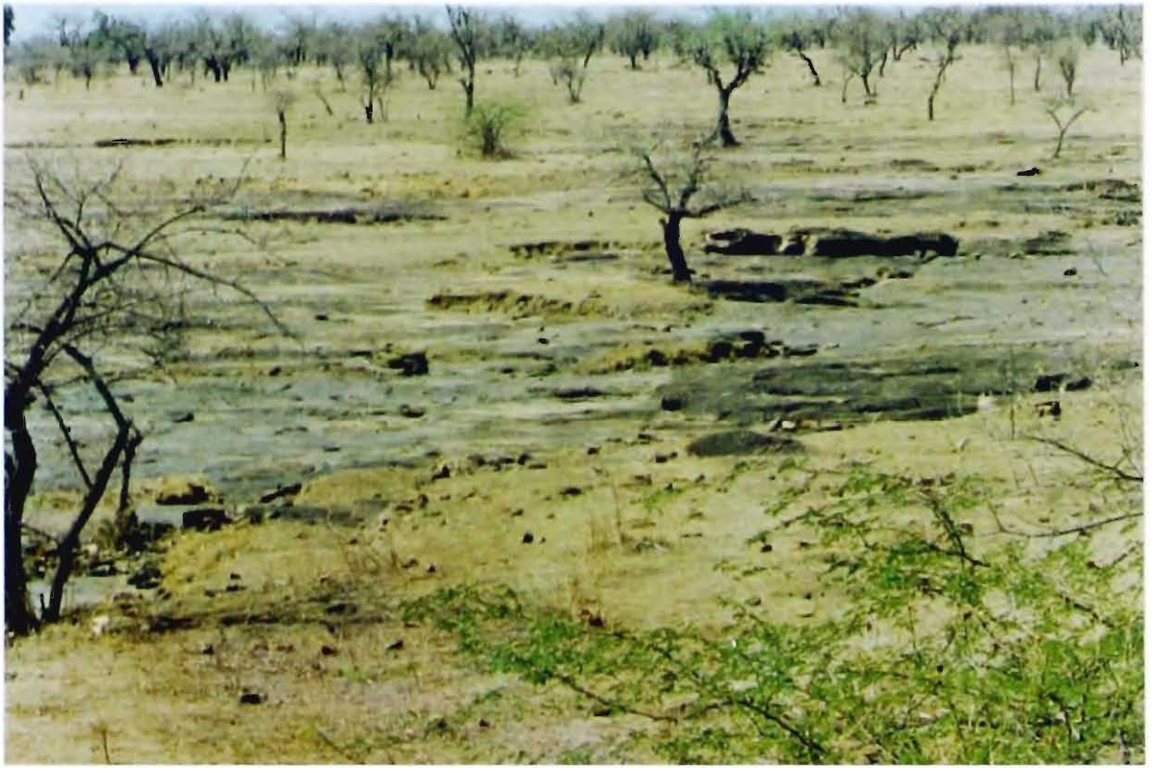
The Desert cat being small, nocturnal animal the best informers were the villagers (above). special arrangements were made for sitting on the roof top of the Jeep with focusing light, for survey of desert cat during night.

PLATE—13



At present chinkara population of Rajasthan has shrunk around three nuclei and southwest Rajasthan (above) is one of them holding 89% population. However, a mega irrigation project, Indira Gandhi Nahar (below) is opening another front against chinkara by introducing large scale land used changes in near future.

PLATE—14



The typical habitats of chinkara in northeast (above) and southeast (below), the two other concentration areas.

PLATE—15

The western Rajasthan, due to nonavailability of irrigation facilities holds plenty of cultivatable scrub wasteland which is one of the present strong holds of chinkara (above), however, in the eastern Rajasthan the chinkara population is confined to peripheral scrub land of sanctuaries (below) and newly planted areas.

PLATE—16

The land use practices in southwest Rajasthan where arid conditions prevail throughout the year (above) except during rains (below) make the land and vegetation available for chinkara.