

Process of Desertification in Kachchh and
Banaskantha Districts of Gujarat, India (1961-1991)
Gujarat Institute of Desert Ecology, Bhuj. (A report)

In Banaskantha, major parts of the district constitute deep to very deep soils. The soil depth suggests the volume of the soil the root can exploit for obtaining their nutrients and water for growth. Very deep, well drained, calcareous and fine to coarse-loamy soil covers major part of the district. In Santalpur, the soil erosion is reported moderate with strong salinity and sodicity. Very slight to moderate erosion with slight to moderate salinity was reported from Wav, Tharad, Deodar, Kankrej and Dhanera talukas whereas strong salinity and sodicity with slight erosion was reported from Radhanpur. Deesa, Palanpur and Vadgam has moderate erosion whereas Danta has rock outcrops associated with shallow, excessively drained loamy skeletal soils on moderately sloping hills and ridges with severe erosion and strong stoniness. The river course of Banas and Saraswati constitutes slight to moderate erosion with moderate to strong salinity in association with moderate to strong sodicity (NBSS Publ. 29, 1994).

The salinity problem was reported maximum in Santalpur and Radhanpur talukas, in which more than 50% of the taluka area was affected, whereas in Deodar approximately 25-50% of the taluka area was affected by the salinity problems. Soil erosion was reported maximum in Danta where more than 50% of the area of the taluka was severely eroded (ORG, 1994). The high saline areas have very poor fertility, hence have poor vegetative cover.

✓ 3.6 VEGETATION

The earlier reports (Puri *et al.* 1959, Jain and Kanodia, 1960, Jain and Deshpande, 1960, Rao and Sabnis, 1977) indicate that there were 695 species of flowering plants in Kachchh district of which a minimum of 345 species belonging to 74 families were indigenous to Kachchh (Blatter 1908, 1909). The natural vegetation of the district is scrubby and the dominant species includes *Euphorbia nivulia* in drier parts whereas *Acacia nilotica*, *Acacia senegal*, *Prosopis cineraria*, *Salvadora persica*, *Salvadora oleoides*, *Commiphora wightii* and *Zizyphus* spp. in many parts of the district. Desert areas are endowed with *Suaeda fruticosa*, *Aeluropus logopoides*, *Cressa cretica*, *Cyperus bulbosus*, *Eragrostis minor*, *Dactyloctenium aegyptium*, *Sporobolus helvolus* and *Aristida funiculata*.

Approximately 73 plant species were reported in grasslands, of which 61 species were in non-saline areas, 33 species were accounted from saline soils and 21 species were common in both

saline and non-saline soils (Table 13). In Banni grasslands, 31 species of grasses were reported (Table 14), however, today the abundance has reduced to approximately a dozen species.

Table 13 : List of Plant Species Recorded in Saline and Non-Saline Area of Kachchh District.

Name of Species	Occurrence	Name of Species	Occurrence
<i>Aeluropus logopoides</i>	S	<i>Desmostachya bipinnata</i>	C
<i>Aerva javanica</i>	N	<i>Dichanthium annulatum</i>	C
<i>Alysicarpus heyneanus</i>	N	<i>Digera muricata</i>	C
<i>Alysicarpus vaginalis</i>	N	<i>Digitaria adscendens</i>	C
<i>Amaranthus viridis</i>	C	<i>Digitaria sanguinalis</i>	S
<i>Ammania baccifera</i>	S	<i>Eclipta prostrata</i>	S
<i>Andropogon pumilus</i>	N	<i>Eragrostis ciliaris</i>	C
<i>Aristida adscensionis</i>	N	<i>Eragrostis tenella</i>	C
<i>Aristida depressa</i>	C	<i>Euphorbia hirta</i>	C
<i>Aristida histricula</i>	S	<i>Evolvulus alsinoides</i>	C
<i>Arundinella leptochloa</i>	N	<i>Fagonia cretica</i>	N
<i>Boerhavia diffusa</i>	N	<i>Halopyrum mucronatum</i>	S
<i>Boerhavia verticillata</i>	N	<i>Heliotropium Sp.</i>	N
<i>Borreria stricta</i>	N	<i>Heteropogon contortus</i>	C
<i>Bothriochloa glabra</i>	N	<i>Heylandia latebrosa</i>	C
<i>Bothriochloa ischaemum</i>	N	<i>Indigofera corditolia</i>	C
<i>Capillipedium filiculme</i>	S	<i>Indigofera oblongifolia</i>	N
<i>Cenchrus ciliaris</i>	C	<i>Iseilema laxum</i>	N
<i>Cenchrus setigerus</i>	N	<i>Iseilema prostratum</i>	N
<i>Chloris barbata</i>	C	<i>Justicia simplex</i>	N
<i>Chloris montana</i>	N	<i>Leptadenia reticulata</i>	N
<i>Chloris virgaata</i>	N	<i>Leucas aspera</i>	N
<i>Chrysopogon aucheri</i>	N	<i>Melanocentris jacquemontii</i>	S
<i>Cleome viscosa</i>	N	<i>Pristrophe bicalyculata</i>	N
<i>Commelina benghalensis</i>	N	<i>Phyllanthus fraternus</i>	N
<i>Convolvulus arvensis</i>	N	<i>Polycarpaea corymbosa</i>	N
<i>Corchorus depressus</i>	N	<i>Pseudoraphis spinescens</i>	S
<i>Cressa cretica</i>	N	<i>Pulicaria wightiana</i>	N
<i>Crotalaria burhia</i>	N	<i>Solanum indicum</i>	N
<i>Cucumis prophetarum</i>	C	<i>Sporobolus elongatus</i>	S
<i>Cymbopogon jwarancusa</i>	N	<i>Sporobolus helvolus</i>	C
<i>Cymbopogon schoenanthus</i>	C	<i>Suaeda fruticosa</i>	S
<i>Cynodon dactylon</i>	C	<i>Tephrosia purpurea</i>	N
<i>Cyperus bulbosus</i>	S	<i>Tribulus terrestris</i>	N
<i>Cyperus rotundus</i>	C	<i>Trichodesma indicum</i>	N
<i>Dactyloctenium aegyptium</i>	C	<i>Zizyphus nummularia</i>	N
<i>Dactyloctenium indicum</i>	N		

N = Species Occurred in Non-Saline Areas.

S = Species Occurred in Saline Areas.

C = Species Occurred in Both.

Table 14 : List of Common Plant Species Recorded in Banni Area (1995).

<i>Aristida adscensionis</i>	<i>Aristida funiculata</i>
<i>Cenchrus biflorus</i>	<i>Cenchrus setigerus</i>
<i>Chloris barbata</i>	<i>Cressa cretica</i>
<i>Cyperus rotundus</i>	<i>Desmostachia bipinnata</i>
<i>Dicanthium annulatum</i>	<i>Digitaria sanguinalis</i>
<i>Eleusine sp</i>	<i>Eragrostis bulbosa</i>
<i>Eragrostis diarrhena</i>	<i>Eragrostis minor</i>
<i>Eragrostis trimula</i>	<i>Melanocenchrus jacquemontii</i>
<i>Paspalum sp.</i>	<i>Setaria sp</i>
<i>Sporobolus helvolus</i>	

Source : Banni Grassland Development Yojna

In 1960, the total forest area reported in Kachchh was 474.61 km² (1.3% of the district geographic area). Due to implementation of silvi-pastoral schemes by forest department, the total area has increased to 2852 km² today which is approximately 6.3% of the district geographical area. However, the actual forest cover is a meager 2.7% and only 187 km² is having a dense forest cover (FSI, 1991). Further, in more than 80% of the forested area the vegetation density is less than 0.4. Amongst different talukas, maximum area was recorded in Abdasa taluka while it was minimum in Anjar taluka (Table 15).

Table 15: Forest Area (km²) in Different Talukas of the Kachchh District (1994-95)

Taluka	Reserve Forest	Unclassified Forest	Total Area
Abdasa	561.69	123.43	685.13
Anjar	21.42	17.52	38.94
Bhachau	31.69	138.76	170.45
Bhuj	301.12	270.65	571.78
Lakhat	355.90	195.63	551.54
Mandvi	13.33	51.75	65.08
Mundra	78.70	2.41	81.11
Nakhatrana	248.56	187.82	436.39
Rapar	105.54	146.28	251.83
Total	1717.99	1134.29	2852.29

Source : Department of Forest (Bhuj), Govt. of Gujarat.

Kachchh coast admeasures 338 km which consists of mud flats encompassing an area of 2500 km² of which, 709 km² is covered with mangroves (SAC, 1992). This is approximately 72% of the total mangrove forests present in the state. The mangroves along the Kachchh coast form

the northern most limit of this vegetation in India. The mangrove vegetation of Kachchh consists of 9 species; *Avicennia marina*, *Acutissima*, *A. officinalis*, *A. alba*, *Rhizophora mucronata*, *Ceriops tagal*, *Bruguiera gymnorhiza*, *Sonneratia opetala* and *Agiceros conniculatum*. Out of which, *A. marina* is the most dominant species in the district. Today these mangroves have been relegated to narrow strips along the coast except few good mangrove areas in Kori creek, Mundra and Jakhau coast.

In 1961-62, the total forest area in Banaskantha district was 1597 km² which was 13% of the district geographical area. In 1994-95, the area has reduced to 12% (Table 16). The total forest cover is 5.8% and only 433 km² has dense forest cover (FSI, 1991).

Table 16 : Forest Area (km²) in Different Talukas of Banaskantha District.

District/ Taluka	Reserve Forest	Protected Forest	Unclassified Forest	Private Forest	Total Area
Taluka (1994-95)					
Danta	294.44	6.37	207.64		508.45
Deesa	3.93	--	--		3.93
Deodar	--	--	--		--
Dhanera	61.78	5.79	4.36		71.93
Kankrej	--	--	--		--
Palanpur	17.19	--	433.96		451.15
Radhanpur	16.42	--	0.48		16.90
Santalpur	339.29	0.25	14.25		353.79
Tharad	--	--	0.20		0.20
Vadgam	12.89	0.30	--		13.19
Wav	80.77	--	--		80.77
District					
1961-62	92.10	5.49	1274.12	225.33	1597.04
1970-71	257.14	5.50	1018.86	224.50	1506.00
1994-95	826.71	12.71	660.89	--	1500.31

Source : Gazetteer of India -- Banaskantha District. Department of Forest (Palanpur).

The forest area in Banaskantha can be classified into : a) Forest on hills and b) Forest on plains. The density of vegetation on hill areas is sparse whereas it is more in valleys. The predominant tree species on the hill tops are *Boswellia serrata* and *Lannea grandis* which covers more than 20-30% of the growing stocks. The middle portions of the hill are dominated by *Acacia catechu* and *Dalbergia latifolia* which alone covers approximately 20 % of the growing stocks, whereas at the foot hills, *Anogeissus pendula* predominates in all age of

THE BIODIVERSITY OF THE
KACHCHH DESERT WILDLIFE SANCTUARY
A FOREST DEPARTMENT, KACHCHH
(EAST) SPONSORED STUDY



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Table - 2 Plankton of the Kachchh Desert Wildlife Sanctuary

No.	Scientific Name
Phytoplankton	
1	<i>Spirogyra porticalis</i>
2	<i>Spirogyra szehwenensis</i>
3	<i>Oscillatoria subbrevis</i>
4	<i>Oscillatoria limosa</i>
5	<i>Closterium acerosum</i>
6	<i>Navicula andidium</i>
7	<i>Navicula rhychocephala</i>
8	<i>Mastogloi recta</i>
9	<i>Cosmarium medioscrobiculatum</i>
10	<i>Neidium dubium</i>
11	<i>Gyrosigma attenuatum</i>
12	<i>Gyrosigma bhusavalensis</i>
13	<i>Stauroneis phoenicenteron</i>
Zooplankton	
14	<i>Paramoecium bursaria</i>
15	<i>Paramoecium caudatum</i>
16	<i>Euglena caudata</i>
17	<i>Euglena spirogyra</i>
18	<i>Euglena acus</i>
19	<i>Amoeba proteus</i>
Rotifera	
20	<i>Brachionus rubens</i>
Nematoda	
21	<i>Rhabditis</i> spp.
Annelida	
22	<i>Glossiphonia</i> spp.
Crustaceans	
23	<i>Cyclops</i> spp.
24	<i>Cypris</i> spp.

Abbreviations for table 3

H-e	=	Herb, erect
H-pr	=	Herb, prostrate
S	=	Shrub
t	=	small tree
T	=	Medim to tall tree
Tf	=	Tufted
Us	=	Under shrub
Spin	=	Spiny
Ten	=	Tendriller

Table-3 List of plants occurring in the Kachchh Desert Wildlife

Sr. No.	Name of plant species	Name of family	Habit	LOCAL NAME
	DICOTYLEDONS			
1	<i>Abrus precatorious</i>	Fabaceae		
2	<i>Abutilon glaucum</i>	Malvaecae	S	Makhmali Khapat
3	<i>A. farnesiana</i>	Mimosaceae	S-t	Tal Baval
4	<i>A. ferruginea</i>	Mimosaceae	S-t	Khaiger
5	<i>A. jacquemontii</i>	Mimosaceae	S	Rato Baval
6	<i>A. leucophloea</i>	Mimosaceae	t	Harmo Baval
7	<i>A. nilotica</i>	Mimosaceae	t-T	Baval
8	<i>A. nilotica sub sp. indica</i>	Mimosaceae	t-T	Kalo Baval, Ram Baval
9	<i>A. planiforms</i>	Mimosaceae	t-s	Chhatro Baval
10	<i>A senegal</i>	Mimosaceae	t	Goradiyo Baval
11	<i>Achyranthes aspera</i>	Amaranthaceae	H-e	Anghedi
12	<i>Aerva javanica</i>	Amaranthaceae	H-e	Gorakh ganjo
13	<i>Ageratum conyzoides</i>	Asteraceae	H-e-pr	Mankad mari
14	<i>Alhagi pseudoalhagi</i>		S-spi	Javaso
15	<i>Alysicarpus longifolius</i>	Fabaceae	H-e	Moto samarvo
16	<i>A. monilifer</i>	Fabaceae	H-pro	
17	<i>A. vaginalis</i>	Fabaceae	H-pro	Bhoiso
18	<i>Argemone mexicana</i>	Papaveraceae	H-e-sp	Darudi
19	<i>Atriplex spp. ?</i>	Chenopodiaceae	H-e	
20	<i>Avicennia marina</i>	Avicenniaceae	T	Tivar
21	<i>Azadirachta indica</i>	Meliaceae	T	Limdo, Neem
22	<i>Balanites aegyptiaca</i>	Balinitaceae	t-s	Ingoryo
23	<i>Bauhinia spp.</i>	Cesalpinaceae	s-t	

Table 3 contd.

Sr. No.	Name of plant species	Name of family	Habit	LOCAL NAME
24	<i>Bergia ammanioides</i>	Elatinaceae	H-p	
25	<i>Boerhavia diffusa</i>	Nyctaginaceae	H-spr	Satodi, Vasedi
26	<i>B. verticillata</i>	Nyctaginaceae	H-spr-cl	Punarnava
27	<i>Borreria articularis</i>	Rubiaceae	H-pr	Madhuri-jadi
28	<i>B. stricta</i>	Rubiaceae	H-e	
29	<i>Calotropis gigantea</i>	Asclepiadaceae	S	Moto ankdo
30	<i>C. procera</i>	Asclepiadaceae	S	Ankdo
31	<i>Capparis decudua</i>	Capparidaceae	S-t	Kerdo
32	<i>Cassia angustifolia</i>	Cesalpinaceae	H-e-us	Mithi - aval Sonamukhi
33	<i>C. auriculata</i>	Cesalpinaceae	S-us	Aval
34	<i>C. italica</i>	Cesalpinaceae	H-e-	Bhoiaval
35	<i>Celosia argentea</i>	Amaranthaceae	H-e	Lampdi
36	<i>Citrullus colocynthis</i>	Cucurbitaceae	H-pr-	Indravarna
37	<i>Cleome simplicifolia</i>	Caparidaceae	H-e	Bethi talwani
38	<i>C. viscosa</i>	Caparidaceae	H-e	Pili talwani
39	<i>Coccinia grandis</i>	Cucurbitaceae	H-cl-	Kadvi gholi
40	<i>Cocculus hirsutus</i>	Menispermaceae	H-us	Vevdi
41	<i>Commiphora wightii</i>	Burseraceae	S	Gugal
42	<i>Convolvulus arvensis</i>	Convolvulaceae	H-pr	Veldi, Fudardi
43	<i>Corchorus capsularis</i>	Tiliaceae	Us-e	Chhunch
44	<i>C. depressus</i>	Tiliaceae	S-p	Nani-chhunch
45	<i>C. olitorius</i>	Tiliaceae	Un-e	Chhunchdo
46	<i>C. tridens</i>	Tiliaceae	H-e	Chhunch
47	<i>Cordia gharaf</i>	ehretiaceae	t	Nana gundi

Table 3 contd.

Sr. No.	Name of plant species	Name of family	Habit	LOCAL NAME
48	<i>Cressa cretica</i>	Convolvulaceae	H-e	Khariyo, Oin
49	<i>Crotalaria burhia</i>	Fabaceae	S-us	Vagadani shan
50	<i>C. medicaginia</i>	Fabaceae	H-e	Ran methi
51	<i>Crozophora rottleri</i>	Euphorbiaceae	H-e	Kalo okhard
52	<i>Cuccumis prophetarum</i>	Cucurbitaceae	H-pr-	Kantala indrana
53	<i>Datura metal</i>	Solanaceae	H-us	Dhanturo
54	<i>Digera muricata</i>	Amaranthaceae	H-e-pr	Kanjro, Kanejro
55	<i>Echinops echinatus</i>	Asteraceae	H-e-	Utkantho, Shutiyo
56	<i>Eclipta prostrata</i>	Asteraceae	H-e-pr	Bhangro
57	<i>Enicostema hyssopifolium</i>	Gentianaceae	H-e-pr	Mamejvo
58	<i>Euphorbia dracunculoides</i>	Euphorbiaceae	H-e	Ubhi dudheli
59	<i>E. nivulia</i>	Euphorbiaceae	S	Thor
60	<i>E. orbiculata</i>	Euphorbiaceae	H-pr	
61	<i>E. parviflora</i>	Euphorbiaceae	H-e	Dudheli
62	<i>E. thymifolia</i>	Euphorbiaceae	H-pr	Nani dudheli
63	<i>Evolvulus alisinoides</i>	Convolvulaceae	H-pr	Kali shankhavali
64	<i>Fagonia cretica</i>	Zygophyllaceae	Us-spr	Dhamaso
65	<i>Glinus lotoides</i>	Molluginaceae	H-pr	Mitho okhrad
66	<i>Goniogyna hirta</i>	Fabaceae	H-pr	Adadiyo
67	<i>Grangea maderaspatana</i>	Astertaceae	H-pr	Jinki mundi
68	<i>Grewia tenax</i>	Tiliaceae	S	Gangeti
69	<i>Heliotropium indicum</i>	Boraginaceae	H-e	Hathi sundh
70	<i>H. ovalifolium</i>	Boraginaceae	H-e-pr	Hathi sundh
71	<i>Indigofera cordifolia</i>	Fabaceae	H-pr	Dadya

Table 3 contd.

Sr. No.	Name of plant species	Name of family	Habit	LOCAL NAME
72	<i>I. linifolia</i>	Fabaceae	H-pr	Zini gali
73	<i>I. linnaei</i>	Fabaceae	H-pr	
74	<i>Ipomoea aquatica</i>	Convolvulaceae	H-aq.	Nalni bhai
75	<i>I. eriocarpa</i>	Convolvulaceae	H-tr-tw	Bodi fudardi
76	<i>Lepidogathis trinervis</i>	Acanthaceae	H-pr-Tf	Paneru
77	<i>Leptadenia pyrotechnica</i>	Asclepiadaceae	S-us	Khip
78	<i>L. reticulata</i>	Asclepiadaceae	S-tw	Nani dodi, Khir-khodi
79	<i>Leucaena leucocephala</i>	Mimosaceae	S-t	Subabul
80	<i>Leucas aspera</i>	Lamiaceae	H-e	Kubhi, Kubi
81	<i>L. cephalotes</i>	Lamiaceae	H-e	Kubo
82	<i>Maytenus emarginata</i>	Celastraceae	S-t	Viklo
83	<i>Merremia emarginata</i>	Convolvulaceae	H-pr	
84	<i>Mollugo pentaphylla</i>	Molluginaceae	H-e	
85	<i>Pentatropis spiralis</i>	Asclepiadaceae	S-tw	Shingroti
86	<i>Pergularia daemia</i>	Asclepiadaceae	H-tw	Chamar dudheli
87	<i>Peristrophe bicalyculata</i>	Acanthaceae	H-e	Adhedi, Kali adhedi
88	<i>Phaseolus trilobata</i>	Fabaceae	H-e-pr	Mag mathi
89	<i>Phyllanthus fraternus</i>	Euphorbiaceae	H-e	Bhoi amli
90	<i>P. maderaspatensis</i>	Euphorbiaceae	H-e	Kanocha
91	<i>Pithecellobium dulce</i>	Mimosaceae	t-T	Goras ambli, Vilayati ambli
92	<i>Polycarpaea corymbosa</i>	Caryophyllaceae	H-e	Zino okhrad
93	<i>Polygala erioptera</i>	Polygalaceae	H-e	Bhoyasan
94	<i>Portulaca oleracea</i>	Portulacaceae	H-p	Moti luni
95	<i>Prosopis chilensis</i>	Mimosaceae	s-t	Gando baval

Table 3 contd.

Sr. No.	Name of plant species	Name of family	Habit	LOCAL NAME
96	<i>P. cineraria</i>	Mimosaceae	T	Khijado
97	<i>Pulicaria wightiana</i>	Asteraceae	H-e	Sonsali
98	<i>Pupalia lappacea</i>	Amaranthaceae	H-e	Zipto
99	<i>Randia spinosa</i>	Rubiaceae	t	Mindhol
100	<i>Rhynchosia minima</i>	Fabaceae	H-cl	
101	<i>Rivea hypocrateriformis</i>	Convolvulaceae	cl-	Fang
102	<i>Salvadora oleoides</i>	Salvadoraceae	t-s	Piludi, Mithi jar
103	<i>S. persica</i>	Salvadoraceae	t-T	Piludi, Khari jar
104	<i>Sessamum indicum</i>	Pedaliaceae	H-e	Tal
105	<i>Sida cordifolia</i>	Malvaceae	Us-e	Bala
106	<i>Sphaemthus indicus</i>	Asteraceae	H-e	Gorakh mundi
107	<i>Solanum indicum</i>	Solanaceae	H-e-	Ubhi ringani
108	<i>S. nigrum</i>	Solanaceae	H-e	Piludi, Kangani
109	<i>Sterculia urens</i>	Sterculiaceae	T	Kadayo
110	<i>Striga angustifolia</i>	Schrophulariaceae	H-e	Dholo agiyo
111	<i>Suaeda fruticosa</i>	Chenopodiaceae	H-e-	Moras
112	<i>S. maritima</i>	Chenopodiaceae	H-se-	Lanno
113	<i>Tamarix ericoides</i>	Tamaricaceae	S	Vidya
114	<i>Tecomella undulata</i>	Bignonaceae	T	Ragat rohido
115	<i>Tephrosia purpurea</i>	Fabaceae	Us-e	Sarpankho
116	<i>Tranthena portulacastrum</i>	Aizoaceae	H-pr	
117	<i>Tribulus terrestris</i>	Zygophyllaceae	H-spr	Gokhru
118	<i>Tricodesma indica</i>	Boraginaceae	H-pr	Undha fuli
119	<i>Tridax procumbens</i>	Asteraceae	H-e-pr	Pardeshi Bhangro

Table 3 contd.

Sr. No.	Name of plant species	Name of family	Habit	LOCAL NAME
120	<i>Vernonia cinerea</i>	Asteraceae	H-e	Sahdevi
121	<i>Xanthium strumarium</i>	Asteraceae	H-e-us	Gadariyu
122	<i>Zizyphus mauritiana</i>	Rhamnaceae	H-st	Mota bor
123	<i>Z. nummularia</i>	Rhamnaceae	t	Chani bor
124	<i>Zomia gibbosa</i>	Fabaceae	H-pr	Samampni
	MONOCOTYLEDON			
125	<i>Aeluropus lagopoides</i>	Poaceae	H-pr-Tf	
126	<i>Apluda mutica</i>	Poaceae	H-e-Tf	
127	<i>Aristida adscensionis</i> B157	Poaceae	H-e	Lapdu
128	<i>A. hystricula</i>	Poaceae	H-e	Lampdo
129	<i>Cenchrus biflorus</i>	Poaceae	H-e-Tf	Motu Dhramnu
130	<i>C. ciliaris</i>	Poaceae	H-e-pr-	Anjan
131	<i>C. setigerus</i>	Poaceae	H-e-spr-	Dhaman
132	<i>Chloris virgata</i>	Poaceae	H-e	
133	<i>Commelina benghalensis</i>	Commelinaceae	H-pr	Shishmulyu
134	<i>Cynodon dactylon</i>	Poaceae	H-spr-Tf	Dharo khad
135	<i>Cymbopogon Sps</i>	Poaceae	H-e	
136	<i>Cyperus bulbosus</i>	Cyperaceae	H-e	Thangi
137	<i>C. compressus</i>	Cyperaceae	H-e-diff.	
138	<i>C. difformis</i>	Cyperaceae	H-e-	
139	<i>C. eleusinoides</i>	Cyperaceae	H-e	
140	<i>C. flavidus</i>	Cyperaceae	H-e	Thegdo

Table 3 contd.

Sr. No.	Name of plant species	Name of family	Habit	LOCAL NAME
141	<i>C. haspan</i>	Cyperaceae	H-	Chiyo
142	<i>C. iria</i>	Cyperaceae	H-e	
143	<i>C. niveus</i>	Cyperaceae	H-e	
144	<i>C. pumilus var. pumilus</i>	Cyperaceae	H-e-	
145	<i>C. rotundus</i>	Cyperaceae	H-e	Chiyo Moth
146	<i>Dactyloctenium aegyptium</i>	Poaceae	H-e-Tf-	
147	<i>Desmostachya bipinnata</i>	Poaceae	H-e-Tf	Dhabh
148	<i>Dichanthium annulatum</i>	Poaceae	H-e-Tf	
149	<i>Digitaria adscendens</i>	Poaceae	H-spr-Tf	
150	<i>Dinebra retroflexa</i>	Poaceae	H-e-Tf	Khariyu
151	<i>Eragrostis ciliaris</i>	Poaceae	H-e-Tf	Marmar
152	<i>E. tenella</i>	Poaceae	H-e-se	Kalvo
153	<i>E. unioloides</i>	Poaceae	H-e-Tf	Chakladum
154	<i>Hetropogon contratus</i>	Poaceae	H-e	Sukhli
155	<i>Fimbristylis dichotoma</i>	Cyperaceae	H-e-Tf	
156	<i>Fuirena pubescens</i>	Poaceae	H-e	
157	<i>Melanocenchrus jacqnemontii</i>	Poaceae	H-e	
158	<i>Panicum spp. ?</i>	Poaceae	H-e	
159	<i>Sorghum helpense</i>	Poaceae	H-e	Baru
160	<i>Saccharum spontaneum</i>	Poaceae	H-e-	Kans
161	<i>Sporobolus fertilis</i>	Poaceae	H-e-Tf	Khariyo
162	<i>S. helvolus</i>	Poaceae	H-e-Tf	
163	<i>Tragus racemosus</i>	Poaceae	H-e	
164	<i>Urginea indica</i>	Liliaceae	H-bulb	Jangli dungri

Table - 4 Invertebrates of the Kachchh Desert Wildlife Sanctuary

No.	English Name	Scientific Name
Arthropods		
1	Water Scavanger Beetle	<i>Hydrophilus</i> spp.
2	Ranatra	<i>Ranatra elongata</i>
3	Water Skatter	<i>Limnometra fluviorum</i>
4	Back-swimmer	<i>Notonecta</i> spp.
5	Water Scorpion	<i>Laccotrephes maculatus</i>
6	Diving Beetle	<i>Cybister rugulosus</i>
7	Water Boatman	<i>Corixa</i> spp.
8	Giant Water Bug	<i>Belostoma indica</i>
9	Honey Bee	<i>Apis mellifera</i>
10	Grasshopper	<i>Chroptoganus trachypterus</i>
11	Cockroach	<i>Procerus ramamurthy</i>
12	Locust	<i>Locusta migratoria</i>
13	Antlion	<i>Myrmeleon contractus</i>
14	Dragonfly	**
15	Cricket	**
16	Earwig	<i>Forficula</i> spp.
17	Termite	<i>Odontotermis parvidens</i>
18	Tigermoth	**
19	Wasp	<i>Larra</i> spp.
20	May Fly	<i>Ephemera</i> spp.
21	Praying Mantis	<i>Mantis</i> spp.
22	Silverfish	<i>Lepisma</i> spp.
23	Spider	**
24	Scorpion	<i>Buthus</i> spp.

** Taxa - yet to identify

No.	Scientific Name
Molluscs	
25	<i>Ariophanta bajadera</i>
26	<i>Lymnaea</i> spp.
27	<i>Zootecus</i> spp.
28	<i>Planorbis exustus</i>
29	<i>Bithynia</i> spp.

Table - 5 Herpetofauna of the Kachchh Desert Sanctuary

No	English Name	Scientific Name
Amphibia		
1	Marbled Toad	<i>Bufo stomaticus</i>
2	Skipper Frog	<i>Euphlyctic cynophlyctic</i>
3	Indian Bull Frog	<i>Hoplobatrachus tigerinus</i>
Reptiles		
4	Mugger	<i>Crocodylus palustris</i>
5	Indian Mud or Flapshell Turtle	<i>Lissemys punctata</i>
6	Starred Tortoise	<i>Geochelone elegans</i>
7	Northern House Gecko	<i>Hemidactylus flaviviridis</i>
8	Brook's Gecko	<i>Hemidactylus brooki</i>
9	Banded Gecko	<i>Cyrtodactylus kacchensis</i>
10	Common Garden Lizard	<i>Calotes versicolor</i>
11	Fan-throated Lizard	<i>Sitana ponticeriana</i>
12	Spiny-tailed Lizard	<i>Uromastyx hardwickii</i>
13	Short-tailed Agama	<i>Agama minor</i>
14	Indian Chameleon	<i>Chamaeleon zeylanicus</i>
15	Common Skink	<i>Mabuya carinata</i>
16	Jerdon's Snake-eye	<i>Opisops jerdoni</i>
17	Skink	<i>Opisops microlepis</i>
18	Common Indian Monitor	<i>Varanus bengalensis</i>
19	Desert Monitor	<i>Varanus griseus</i>
20	John's Earth Boa	<i>Eryx johni</i>
21	Dhaman or Common Ratsnake	<i>Ptyas mucosus</i>
22	Checkered Keelback	<i>Xenochrophis piscator</i>
23	Common Indian Krait	<i>Bungarus caeruleus</i>
24	Indian Cobra	<i>Naja naja</i>
25	Saw-scaled Viper	<i>Echis carinatus</i>

Table -6 Birds of the Kachchh Desert Sanctuary

No	English Name	Scientific Name
1	Great Crested Grebe	<i>Podiceps cristatus</i>
2	Rednecked Grebe	<i>Podiceps griseigena</i>
3	Rosy or White Pelican	<i>Pelecanus onocrotalus</i>
4	Dalmatian Pelican	<i>Pelecanus philippensis</i>
5	Lesser Flamingo	<i>Phoeniconaias minor</i>
6	Flamingo	<i>Phoenicopterus roseus</i>
7	Little Cormorant	<i>Phalacrocorax niger</i>
8	Cormorant	<i>Phalacrocorax carbo</i>
9	Pond Heron	<i>Ardeola grayii</i>
10	Grey Heron	<i>Ardea cinerea</i>
11	Cattle Egret	<i>Bubulcus ibis</i>
12	Little Egret	<i>Egretta garzetta</i>
13	Smaller Egret	<i>Egretta intermedia</i>
14	Large Egret	<i>Ardea alba</i>
15	Common Crane	<i>Grus grus</i>
16	Demoiselle Crane	<i>Anthropoides virgo</i>
17	Sarus Crane	<i>Grus antigone</i>
18	Painted Stork	<i>Mycteria leucocephala</i>
19	Black Ibis	<i>Pseudibis papillosa</i>
20	Glossy Ibis	<i>Plegadis falcinellus</i>
21	Spoonbill	<i>Platalea leucorodia</i>
22	Spotbill Duck	<i>Anas poecilorhyncha</i>
23	Wigeon	<i>Anas penelope</i>
24	Shoveller	<i>Anas clypeata</i>
25	Common Pochard	<i>Aythya ferina</i>
26	Comb Duck	<i>Sarkidiornis melanotos</i>
27	Brahminy Kite	<i>Haliastur indus</i>
28	Osprey	<i>Pandion haliaetus</i>
29	Pale Harrier	<i>Circus macrourus</i>
30	Indian Whitebacked Vulture	<i>Gyps bengalensis</i>
31	Egyptian Vulture	<i>Neophron percnopterus</i>
32	Blackwinged Kite	<i>Elanus caeruleus</i>
33	Goshawk	<i>Accipiter gentilis</i>
34	Shikra	<i>Accipiter badius</i>
35	Lesser Spotted Eagle	<i>Aquila pomarina</i>

Table - 6 Cont.

No	English Name	Scientific Name
36	Redheaded Merlin	<i>Falco chicquera</i>
37	Black Partridge	<i>Francolinus francolinus</i>
38	Grey Partridge	<i>Francolinus pondicerianus</i>
39	Grey Quail	<i>Coturnix coturnix</i>
40	Rock Bush Quail	<i>Perdicula argoondah</i>
41	Common Peafowl	<i>Pavo cristatus</i>
42	Coot	<i>Fulica atra</i>
43	Houbara	<i>Chlamydotis undulata</i>
44	Lesser Florican	<i>Sypheotides indica</i>
45	Indian Courser	<i>Cursorius coromandelicus</i>
46	Redwattled Lapwing	<i>Vanellus indicus</i>
47	Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>
48	Blacktailed Godwit	<i>Limosa limosa</i>
49	Avocet	<i>Recurvirostra avosetta</i>
50	Kentish Plover	<i>Charadrius alexandrinus</i>
51	Little Stint	<i>Calidris minuta</i>
52	Common Sandpiper	<i>Tringa hypoleucos</i>
53	Blackwinged Stilt	<i>Himantopus himantopus</i>
54	Blackheaded Gull	<i>Larus ridibundus</i>
55	Great Blackheaded Gull	<i>Larus ichthyaetus</i>
56	Indian River Tern	<i>Sterna aurantia</i>
57	Indian Sandgrouse	<i>Pterocles exustus</i>
58	Painted Sandgrouse	<i>Pterocles indicus indicus</i>
59	Closebarred Sandgrouse	<i>Pterocles indicus arabicus</i>
60	Blue Rock Pigeon	<i>Columba livia</i>
61	Indian Ring Dove	<i>Streptopelia decaocto</i>
62	Red Turtle Dove	<i>Streptopelia tranquebarica</i>
63	Little Brown Dove	<i>Streptopelia senegalensis</i>
64	Roseringed Parakeet	<i>Psittacula krameri</i>
65	Jungle Owlet	<i>Glaucidium radiatum</i>
66	The Swift	<i>Apus apus</i>
67	Green Bee-eater	<i>Merops orientalis</i>
68	Whitebreasted Kingfisher	<i>Halcyon smurnensis</i>
69	Hoopoe	<i>Upupa epops</i>
70	Ashycrowned Finch-lark	<i>Eremopterix grisea</i>

Table - 6 Cont.

No	English Name	Scientific Name
71	Rufoustailed Finch-lark	<i>Ammomanes phoenicurus</i>
72	Bifasciated or Large Desert Lark	<i>Alaemon alaudipes</i>
73	Short-toed Lark	<i>Calandrella cinerea</i>
74	Crested Lark	<i>Galerida cristata</i>
75	Swallow	<i>Hirundo rustica</i>
76	Common Iora	<i>Aegithina tiphia</i>
77	Whitecheeked Bulbul	<i>Pycnonotus leucogenys</i>
78	Redvented Bulbul	<i>Pycnonotus cafer</i>
79	Black Drongo	<i>Dicrurus adsimilis</i>
80	Koel	<i>Eudynamys scolopacea</i>
81	House Crow	<i>Corvus splendens</i>
82	Grey Tit	<i>Parus major</i>
83	Rock Thrush	<i>Monticola saxatilis</i>
84	Common Babbler	<i>Turdoides caudatus</i>
85	Indian Robin	<i>Saxicoloides fulicata</i>
86	Pied Bush Chat	<i>Saxicola caprata</i>
87	Desert Wheatear	<i>Oenanthe deserti</i>
88	Ashy Wren-warbler	<i>Prinia socialis</i>
89	Paddyfield Warbler	<i>Acrocephalus agricola</i>
90	Booted Warbler	<i>Hippolais caligata</i>
91	Baybacked Shrike	<i>Lanius vittatus</i>
92	Rufousbacked Shrike	<i>Lanius schach</i>
93	Yellow Wagtail	<i>Motacilla flava</i>
94	Pied Wagtail	<i>Motacilla alba</i>
95	Brahminy Myna	<i>Sturnus pagodarum</i>
96	Bank Myna	<i>Acridotheres ginginianus</i>
97	Common Myna	<i>Acridotheres tristis</i>
98	Rosy Pastor	<i>Sturnus roseus</i>
99	Purple Sunbird	<i>Nectarinia asiatica</i>
100	Whitethroated Munia	<i>Lonchura malabarica</i>
101	House Sparrow	<i>Passer domesticus</i>
102	Baya	<i>Ploceus philippinus</i>
103	Blackheaded Bunting	<i>Emberiza melanocephala</i>

Table - 7 Mammals of the Kachchh Desert Sanctuary

No	English Name	Scientific Name
1	Desert Cat	<i>Felis libyca</i>
2	Caracal	<i>Felis caracal</i>
3	Common Mongoose	<i>Herpestes edwardsi</i>
4	Striped Hyena	<i>Hyaena hyaena</i>
5	Wolf	<i>Canis lupus</i>
6	Jackal	<i>Canis aureus</i>
7	Red Fox	<i>Vulpes vulpes</i>
8	Indian Fox	<i>Vulpes bengalensis</i>
9	Longeared Hedgehog	<i>Hemiechinus auritus</i>
10	Grey Musk Shrew	<i>Suncus murinus</i>
11	Common Yellow Bat	<i>Scotophilus heathi</i>
12	Fivestriped Palm Squirrel	<i>Funambulus pennanti</i>
13	Indian Desert Gerbille	<i>Meriones hurriane</i>
14	Shorttailed Bandicoot	<i>Nesokia indica</i>
15	Indian Porcupine	<i>Hystrix indica</i>
16	Indian Hare	<i>Lepus nigricollis</i>
17	Indian Wild Ass	<i>Equus hemionus khur</i>
18	Chinkara or Indian Gazelle	<i>Gazella gazella</i>
19	Nilgai or Blue bull	<i>Boselaphus tragocamelus</i>
20	Indian Wild Boar	<i>Sus scrofa</i>

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PLATES DEPICTING THE
CHARACTERISTICS OF
THE KACHCHH DESERT
WILDLIFE SANCTUARY