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ECOLOGY AND BIODIVERSITY STATUS OF SACHIN GIDC AND ITS SURROUNDINGS WITH SPECIAL REFERENCE TO CONSERVATION MEASURES FOR INDIAN PEAFOWL (*Pavo cristatus*) SCHEDULE –I BIRD SPECIES

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Abstract: The variety and variability of organisms and ecosystems is referred to as biological diversity or Biodiversity. Biodiversity is a term which has gained enormous importance in the past few years. Technically, it is a contraction of biological diversity. Biological diversity is defined as the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. Ecological impact assessment (EclA) is used to predict and evaluate the impacts of development activities on ecosystems and their components, thereby providing the information needed to ensure that ecological issues are given full and proper consideration in project planning stage itself. Environmental impact assessment (EIA) has emerged as a key to sustainable development by integrating social, economic and environmental issues in many countries. The baseline study for the evaluation of the floral and faunal biodiversity of the terrestrial environment of the study area was carried out within 10 Km radius of the proposed incineration plant planning to be established in the existing premises of an abandoned industrial unit of Sachin GIDC in Surat district, Gujarat during January, 2nd and 5th, 2014. The study concludes that the study area has diverse flora and fauna but it is becoming progressively worse by industrial development in the surrounding vicinity. Due to the industrial development in Sachin, the surrounding area has been polluted with waste water which can be seen on floral diversity. Some trees have been dried. The rare trees *Adansonia digitata* represent the rich floral diversity of the area. There is a need of special attention to protect all the rare trees and fauna by the authority.

Keywords: Biodiversity; Conservation; Ecological Impact Assessment; *Pavo cristatus*.

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INTRODUCTION

Biodiversity is often considered synonymous with species richness of the area. Identifying, measuring, and monitoring biodiversity is a complex exercise. The biodiversity assessment generally concern with, conducting biodiversity inventories for assessing existing biodiversity in the project impact zone and surrounding area. The purpose is to provide the information on the biodiversity richness of the area under consideration. The selection of indicators differs for biodiversity monitoring as per output required.

BIODIVERSITY OF TERRESTRIAL ENVIRONMENT

Conference of parties to the Convention on Biological diversity (CBD) held at Curitiba, Brazil on March 20th-31st, 2006 suggested biodiversity to be considered in impact assessment by providing voluntary guidelines on biodiversity inclusive Environmental Impact Assessment. CBD provides a strong international

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platform for applying impact assessment techniques to biodiversity conservation. It specifically calls for impact assessment measures to ensure that biodiversity is addressed in projects, plan and policy decision (Article 14). An underlying justification for the application of impact assessment is also given in Article -8, which is for promoting the protection of ecosystems, natural habitats, promoting environmentally sound and sustainable development in areas next to the protected areas.

BIOLOGICAL DIVERSITY

The variety and variability of organisms and ecosystems is referred to as biological diversity or Biodiversity. Biodiversity is a term which has gained enormous importance in the past few years. Technically, it is a contraction of biological diversity. For the purposes of the CBD (Article 2 Use of Terms), 'Biological Diversity' is defined as "the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems". In practice, biodiversity is most often used as a collective noun synonymous with nature or Life on Earth (WCMC Biodiversity Series No 5, 1996). The biodiversity, we see today is the result of billions of years of evolution, shaped by natural processes. The vast array of interactions among the various components of biodiversity makes the planet habitable for all species, including humans. There is a growing recognition that, biological diversity is a global asset of tremendous value to present and future generations. At the same time, the threat to species and ecosystems has never been as great as it is today. Species extinction caused by human activities continues at an alarming rate. Protecting biodiversity is for our self-interest and as well as for the future generation.

ECOLOGICAL IMPACT ASSESSMENT

Ecological impact assessment (EclA) is used to predict and evaluate the impacts of development activities on ecosystems and their components, thereby providing the information needed to ensure that ecological issues are given full and proper consideration in project planning stage itself. Environmental impact assessment (EIA) has emerged as a key to sustainable development by integrating social, economic and environmental issues in many countries. EclA has a major part to play as a component of EIA but also has other potential applications in environmental planning and management. Ecological Impact Assessment provides a comprehensive review of the EclA process and summarizes the ecological theories and tools that can be used to understand, explain and evaluate the ecological consequences of development proposals. Environmental impact assessments have become an integral part of development projects in India ever since 1994, to formulate policies and guidelines for environmentally sound economic development. Proper assessment of biological environment and compilation of its taxonomical data is essential for the impact prediction. Consistent and regularly updated data on regional and local taxonomy and floristic and faunal diversity of the areas are almost non-existent in country as diverse as India. Instant information on biodiversity profiles of the area, where the proposed activity is setting up, is an essential part of the baseline studies of EIA. In such a situation, good primary baseline biodiversity survey is a pre-requisite for the collection of reliable data. The professional ethic of the EIA practitioners should be their will and skill to conduct scientific field surveys. These contributions towards biodiversity surveys may sometimes recognized as the actual value additions in terms of new records or a new data base but are more often recognized in the validation and updating of the existing information base.

EXPERIMENTAL

Period of the study and Study area: The baseline study for the evaluation of the floral and faunal biodiversity of the terrestrial environment of the study area was carried out within 10 Km radius of the proposed incineration plant planning to be established in the existing premises of an abandoned industrial unit of Sachin GIDC in Surat district, Gujarat during January, 2nd and 5th, 2014.

Methodology: The primary objective of survey was to describe the floristic and faunal communities within the study area. Extrapolation and prediction techniques were used to limit the number of sites to be assessed. The knowledge of species habitats requirement, soil type, terrain, vegetation etc. were used to

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predict species occurrence. The biological value of an area can be characterized by its species richness, degree of species endemism, uniqueness of the ecosystem and magnitude of threats facing by existing by flora and fauna of extinction. This Rapid biodiversity assessment were undertaken initially by identifying potentially rich sites from satellite imagery (Google Earth) and conducting the field survey in the identified potential habitats. GPS was utilized for locating field sample plots as well as gathering positional attributes of sighted flora and fauna species. For floral survey, sample plots have been randomly distributed across the suitable stratum within 10 km radius of study point. The methodology adopted for faunal survey involve; faunal habitat assessment, random intensive survey, opportunistic observations, diurnal bird observation, active search for reptiles, active search for scats and foot prints and review of previous studies. The aim was to set baselines in order to monitor and identify trends after the commencement of incinerator operation. Emphasis has been placed on presence of rare, endemic, migratory and threatened species, if any present in the study area. Desktop literature review was conducted to identify the representative spectrum of threatened species, population and ecological communities as listed by IUCN, ZSI, BSI and in Indian wild Life Protection act, 1972. The status of individual species was assessed using the revised IUCN category system (2013) (Kumar and Srivastava, 2011; Kumar, 2013a, b; Kumar and Srivastava, 2013).

RESULTS AND DISCUSSION

Biodiversity of Terrestrial Environment

Habitats description of study point and its immediate surroundings: The centre point of study area lies between 21°06'01.51", 72°50'54.0" located in Sachin GIDC area, Surat District, Gujarat. Immediate surroundings are dominated by industrial establishments; mainly chemical manufacturing units, few settlements of Unn village located within 1 km from site are the nearest habitation. There is no eco-sensitive area like forest patches, large water bodies that attract migratory and other residential water fowls within the close proximity of the site, and hence the direct impact due to the on these eco-sensitive receptors are not envisaged. The green belt in the GIDC area is limited to very few industrial compounds mainly through the plantation of Asopalav (*Polylathia longifolia*), Sonmukhi, (*Peltophorum pterocarpum*), Sharu (*Casuarina equisetifolia*), Pardesi Baval (*Leucaena leucocephala*) and Nilgari (*Eucalyptus sp.*).

Habitats description of the area (10 Km): The major portion in the Northern side of the study area is occupied by the residential area of Surat City and industrial establishments in Sachin GIDC and Pandesara GIDC. Western portion of the study area was observed with vast patch of mud bank, which are submerged during the spring tide and exposed during the rest of period. These areas are getting inundated due to the tidal influx from the Gulf of Khambhath, through Mindhola estuary and other smaller creeks. The land use pattern of the Eastern region of the study area was dominated by Sugar cane fields. Due to the industrialization and urbanization, natural habitats in the area have been confined to very limited patches. Tree cover in the study area is restricted to homestead/farmland or road side plantation. These typical tree cover pattern is termed by Forest Survey of India (FSI) as Trees outside Forests (TOF), in the form of small woodlots and block plantations as trees along linear features, such as roads, canals bunds, etc. and scattered trees on farmlands, homesteads, community lands and urban areas. Dominant tree species planted as farmland plantation was dominated, *Mangifera indica* (Keri), *Borassus flabellifer* (Tad), *Phoenix sp.*, *Adirachta indica* (Limbedo), *Casuarina equisetifolia* (Sharu), *Ailanthus excelsa* (Aurdso), *Eucalyptus sp* (Nilgari) and *Albizia lebbbeck* (Siris) etc.



Water logged region near Umber Village where tidal water reaches during Spring tide period, from the Gulf of Khambath through the Mindhola estuary and adjoining creeks



The dominant pattern of the farm land vegetation dominated by *Mangifera indica* (Keri), *Borassus flabellifer* (Tad), *Phoenix* sp.



Many fallow lands were observed in the study area but with very limited vegetation.



Four *Adansonia digitata* trees were observed in the study area, the largest one among them shown in the above figure was observed in Umber village with GBH 35.8 feet



Agriculture activity was observed only along the Eastern portion of the study area, mainly Sugar cane cultivation



Hedges along the agriculture fields are the area which supports good vegetative cover.

Floral Diversity of the study area

The objective this floral inventory of the study area is to provide necessary information on floristic structure in the study area for formulating effective management and conservation measures. The climatic, edaphic and biotic variations with their complex interrelationship and composition of species, which are adapted to these variations, have resulted in different vegetation cover, characteristic of each region. The following account of floral inventory have been, based on the field survey conducted for a short duration in the January, 2014, is not very comprehensive data and is aimed only to give a general pattern of vegetation of this region during the study period as a baseline data in absence of available secondary data. Listing of the endangered, threatened and endemic species of flora in a locality and drawing the attention to the occurrence of such species, would aid in creating awareness amongst the local people as a whole to protect such species from extinction, and to take necessary measures for their conservation. These type of floristic study is an inventory for such purpose and hence a necessity. The tree species, herbs, shrubs, climbers and major crops, were documented during this base line study. The list of floral species documented in the study area is enlisted in Table 1.

Trees: The trees in the study area; were generally planted either as farmland plantation or homestead plantation or along the road sides. Otherwise natural tree cover is very less in this part of Surat District. Homestead plantation was dominated by *Tamarindus indica* (Amali), *Mangifera indica* (Keri), *Moringa oleifera* (Sargavo), *Pithecellobium dulce* (Gorasmli), *Ficus benghalensis* (Vad), and *Cocos nucifera* (Narial). Road side Plantations were dominated by *Acacia auriculiformis*, *Peltophorum pterocarpum* (Sonmukhi), *Tamarindus indica* (Amali), *Delonix regia* (Gaulmor), *Azadirachta indica* (Limbado), *Acacia leucophloea* (Hermobaval), *Acacia nilotica* (Baval), *Albizia lebbeck* (Siris), *Leucaena leucocephala* (Pardesi Baval), *Prosopis cineraria* (Khyigdo), *Ficus benghalensis* (Piplo), *Ailanthus excelsa* (Aurdso), and *Tectona grandis* (Sag). The list of tree species observed in the study area is enlisted in the Table 1. Total 39 species of trees belong to 22 families are enumerated from the study area.

Table 1. Tree in the Study area

S.No.	Family & Scientific name	Vernacular name
1	Family: Anacardiaceae	
1/1	<i>Mangifera indica</i> L.	Kari
2	Family: Annonaceae	
2/1	<i>Polylathia longifolia</i> (Conn.) Thw.	Asopalav
3	Family: Apocynaceae	
3/1	<i>Plumeria rubra</i> L.	Champo
4	Family: Bomacaceae	
4/1	<i>Adansonia digitata</i> L	Rukh, Rukhdo
5	Family: Arecaceae	
5/1	<i>Cocos nucifera</i> L.	Narial
6/2	<i>Borassus flabellifer</i> L.	
7/3	<i>Phoenix</i> sp	
8/4	<i>Roystonea regia</i>	
6	Family: Caesalpiniaceae	
9/1	<i>Delonix regia</i> (Boj.) Raf.	Gaulmor
10/2	<i>Cassia fistula</i> L.	Garmalo
11/3	<i>Cassia siamea</i> Lam.	Kasid
12/4	<i>Peltophorum pterocarpum</i> (DC.) Backer ex Heyne	Sonmukhi,
13/5	<i>Tamarindus indica</i> L.	Amali
7	Family: Caricaceae	
14/1	<i>Carica papaya</i> L.	Papaya
8	Family: Casuarinaceae	
15/1	<i>Casuarina equisetifolia</i> L.	Sharu
9	Family: Combretaceae	
16/1	<i>Terminalia catappa</i> L.	Badam
10	Family: Malvaceae	
17/1	<i>Thespesia populnea</i> (L.) Sol.ex Corr.	Paras piplo
11	Family: Meliaceae	
18/1	<i>Azadirachta indica</i> A.Juss	Limbado
12	Family: Mimosaceae	
19/1	<i>Acacia auriculiformis</i>	Austrian baval,
20/2	<i>Acacia leucophloea</i> (Roxb) Willd.	Hermobaval
21/3	<i>Acacia nilotica</i> (L.) Del.subsp.indica (Bth.) Brenan	Baval
22/4	<i>Albizia lebbeck</i> (L.) Bth.	Siris
23/5	<i>Leucaena leucocephala</i> (Lam.) De	Pardesi Baval
24/6	<i>Pithecellobium dulce</i> (Roxb.) Bth.	Gorasmli

S.No.	Family & Scientific name	Vernacular name
25/7	<i>Prosopis cineraria</i> (L.) Druce	Khyigdo
13	Family:Moraceae	
26/1	<i>Ficus benghalensis</i> L.	Vad
27/2	<i>Ficus religiosa</i> L.	Piplo
28/3	<i>Ficus hispida</i>	Dhedh Umardo, Jangli Umardoe
14	Family:Moringaceae	
29/1	<i>Moringa oleifera</i> Lam	Sargavo
15	Family:Myrtaceae	
30/1	<i>Eucalyptus</i> sp.	Nilgari
31/2	<i>Syzygium cumini</i> (L.) Skeels.	Jambu
16	Papilionaceae	
32/1	<i>Pongamia pinnata</i> (L.) Pierre	Karanj
17	Family:Poaceae	
33/1	<i>Dendrocalamus strictus</i> (Roxb)	Bans
18	Family:Salvadoraceae	
34/1	<i>Salvadora persica</i> L.	Piludi
19	Family:Sapotaceae	
35/1	<i>Manilkara hexandra</i> (Roxb.) Dub.	Rayan
36/2	<i>Manilkara zapota</i> (L.)	Chikoo
20	Family:Simaroubaceae	
37/1	<i>Ailanthus excelsa</i> Roxb.	Aurdso
21	Family:Rhamnaceae	
38/1	<i>Zizyphus glabrata</i> Heyne ex Roth.	Bor
22	Family:Verbenaceae	
39/1	<i>Tectona grandis</i> L.f.	Sag

Shrubs: Shrubs observed during the present survey are given in the Table 2. Total 23 shrub species belong to 15 families are enumerated from the study area. The dominant shrub community in this area was represented by *Prosopis juliflora* (Gando baval), *Calotropis procera*, *C. gigantea* (Akado), *Ipomoea fistulosa* (Nasarmo), *Lawsonia inermis* (Mendhi), and *Lantana camara* (Ganthai).

Table 2. List of the Shrubs in the study area

S.No.	Family and Scientific name	Vernacular name
1	Family :Apocynaceae	
1/1	<i>Nerium indicum</i>	Lalkaren
2/2	<i>Thevetia peruviana</i> Merr.	Pili karan
2	Family: Asclepiadaceae	
3/1	<i>Calotropis gigantea</i> (L.) R. Br	Akado
6/2	<i>Calotropis procera</i> (Ait.) R.Br	Akado
3	Family: Caesalpiniaceae	
4/1	<i>Cassia auriculata</i> L	Aval
4	Family: Convolvulaceae	
5/1	<i>Ipomoea fistulosa</i> Mart.ex Choisy	Nasarmo
5	Family: Euphorbiaceae	
6/1	<i>Euphorbia neriifolia</i> L.	Thor
7/2	<i>Jatropha curcas</i> L.	Ratanjot
6	Family: Lythraceae	

S.No.	Family and Scientific name	Vernacular name
8/1	<i>Lawsonia inermis L.</i>	Mendhi
7	Family: Malvaceae	
9/1	<i>Abelmoschus manihot (L.) Medic.</i>	Jagali bhindi
10/2	<i>Abelmoschus esculentus (L.)</i>	Bhindi
11/3	<i>Gossypium herbaceum L. acerifolium</i>	Kapas
12/4	<i>Hibiscus rosa –sinensis</i>	Jasund
8	Family: Musaceae	
13/1	<i>Musa paradisiaca L.</i>	Kela
9	Family: Mimosaceae	
14/1	<i>Prosopis juliflora DC</i>	Gando baval
10	Family: Nyctaginaceae	
15/1	<i>Bougainvillea spectabilis Willd.</i>	Bougainvel
11	Family: Papilionaceae	
16/1	<i>Sesbania sesban (L.) Merr.</i>	Shevari
12	Family: Poaceae	
17/1	<i>Saccharum officinarum L.</i>	Sherdi
13	Family: Rhamnaceae	
18/1	<i>Zizyphus nummularia (Burm.f.) W. &</i>	Chanibor
14	Family: Solanaceae	
19/1	<i>Datura metel L</i>	Daturo
20/2	<i>Solanum incanum L</i>	Ubhi ringan
21/3	<i>Solanum indicum</i>	
15	Family : Verbenaceae	
22/1	<i>Clerodendrum inerme (L.) Gaertn.</i>	Madhi
23/2	<i>Lantana camara L. var. aculcata (L.) Mold.</i>	Ganthai

Herbs: The herbs observed in the sampling plots, during the survey period within the study area have been enlisted in the Table 3. Total 59 species of herbs belongs to 25 families were documented from the sampling plots laid in different habitats.

Table 3. List of Herbaceous Species observed in Study Area

S.No.	Family and Scientific name	Vernacular name
1	Family Acanthaceae	
1/1	<i>Hygrophila auriculata (Schum.)</i>	Kanatashelio, Akaro
2	Family Amaranthaceae	
2/1	<i>Aerva javanica (Burm.f.) Juss.</i>	Bur, Gorakhganjo
3/2	<i>Celosia argentea L.</i>	Lamdi
3	Araceae	
4/1	<i>Colocasia esculenta L.</i>	
4	Family: Asteraceae	
5/1	<i>Ageratum conyzoides L.</i>	Mankad Mari, Dholi saddi
6/2	<i>Blumea mollis</i>	Bhutaco
7/3	<i>Echinops echinatus Roxb</i>	Shulio
8/4	<i>Tridax procumbens L</i>	Pardesi Bhangro
9/5	<i>Parthenium hysterophorus L</i>	--
10/6	<i>Xanthium strumarium L.</i>	Gokhru
5	Family: Boraginaceae	
11/1	<i>Trichodesma indicum R. Br.</i>	Undha Fuli
6	Family: Commelinaceae	

S.No.	Family and Scientific name	Vernacular name
12/1	<i>Commelina benghalensis</i> L	
7	Family: Convolvulaceae	
13/1	<i>Cressa cretica</i> L.	Palio, Rudanti
14/2	<i>Convolvulus arvensis</i> L.	
15/3	<i>Evolvulus alsinoides</i> (L.)	
8	Family: Cyperaceae	
16/1	<i>Cyperus</i> sps.	--
17/2	<i>Fimbristylis dichotoma</i> Vahl.	--
18/3	<i>Fimbristylis</i> sps.	--
9	Family: Euphorbiaceae	
19/1	<i>Euphorbia hirta</i> L.	--
10	Family: Gentianaceae	
20/1	<i>Nymphoides indicum</i> (Roxb.)	Kumudini
11	Family: Hydrocharitaceae	
21/1	<i>Hydrilla verticillata</i> (L.f.) Royle	
22/2	<i>Ottelia alismoides</i> L.	
12	Family: Lamiaceae	
23/1	<i>Anisomeles indica</i> L.	Chodharo
24/2	<i>Ocimum basilicum</i> L	
25/3	<i>Ocimum sanctum</i> L	tulsi
13	Family: Liliaceae	
26/1	<i>Aloe barbadensis</i> Mill.	Kunvarpato
14	Family: Malvaceae	
27/1	<i>Abutilon indicum</i> L.	Khapat, Dabaliar
28/2	<i>Malachra capitata</i> L.	Pardesi bhindo
29/3	<i>Sida</i> sp.	--
30/4	<i>Pavonia</i> sp.	
15	Family: Nymphaeaceae	
31/1	<i>Nymphaea pubescens</i> Wild	Kamal
16	Family: Papilionaceae	
32/1	<i>Alysicarpus longifolius</i> (Rttl.ex Spreng)	Motosamervo
33/2	<i>Cajanus cajan</i> (L)	Tuvar
34/3	<i>Cortalaria prostate</i>	
35/4	<i>Cortalaria juncea</i>	Shun
36/5	<i>Indigofera cardifolia</i> Heyne ex Roth	
37/6	<i>Indigofera oblongifolia</i> Forks.	--
38/7	<i>Indigofera</i> sp.	
39/8	<i>Tephrosia purpurea</i> L.	Sarpankho
40/9	<i>Tephrosia</i> sps.	--
41/10	<i>Medicago sativa</i> L	Lachko
42/11	<i>Cacia tora</i>	Kuvandio
17	Family: Poaceae	
43/1	<i>Aleuopus lagopoides</i> (L)	--
44/2	<i>Cynodon barberi</i> Rang.	--
45/3	<i>Cynodon dactylon</i> (L.)	--
46/4	<i>Phragmites kara</i> (Retz.)	--
47/5	<i>Sorghum bicolor</i> (L.)	Jowar
48/6	<i>Zea mays</i>	Makai

S.No.	Family and Scientific name	Vernacular name
18	Family: Polygonaceae	
49/1	<i>Polygonum sp.</i>	
19	Family: Pontederiaceae	
50/1	<i>Eichhornia crassipes (Mart.)</i>	Kanphutti
20	Family: Potamogetonaceae	
51/1	<i>Potamogeton sp.</i>	
21	Family: Solanaceae	
52/1	<i>Solanum nigrum L.</i>	Piludi
53/2	<i>Solanum surattense Brum.</i>	Bhoringni
22	Family: Scrophulariaceae	
54/1	<i>Bacopa monnieri L.</i>	
23	Family: Tiliaceae	
55/1	<i>Corchorus depressus Stocks</i>	Bhuphali
56/2	<i>Corchorus aestunans L.</i>	Chunch
24	Family: Typhaceae	
57/1	<i>Typha angustata Bory & Chaub</i>	Ramban, Ghabajariu
25	Family: Zygophyllaceae	
58/1	<i>Fagonia cretica L.</i>	--
59/2	<i>Tribulus terrestris L.</i>	Mithu Gokhru

Climbers and Twiners: Climbers/ twiners in the study area dominated by, *Ipomoea pes-tigridis* (Wagpadi), *Ipomoea pes-caprae* (Dariani vel), *Ipomoea aquatica* (Nali ni Bhaji), *Coccinia grandis* (Ghiloda), *Luffa cylindrica* (Galku), and *Abrus precatorius* (Chanothai). The major climbers and twiners observed in the study area in the sampling plots are given in the Table 4. Total 19 species of climbers/ twiners belongs to 8 families are recorded from the area.

Table 4. List of Climbers observed in the area

S. No.	Family & Scientific name	Vernacular name
1	Family: Asclepiadaceae	
1/1	<i>Pentatropis spiralis (Forsk.) Decne</i>	Shingroti
2	Family: Convolvulaceae	
2/1	<i>Ipomoea cairica (L.)</i>	--
3/2	<i>Ipomoea nili L.</i>	
4/3	<i>Ipomoea obscura L.</i>	--
5/4	<i>Ipomoea pulchella Roth</i>	--
6/5	<i>Ipomoea aquatica Forsk.</i>	Nadinivel
7/6	<i>Ipomoea pes-caprae</i>	Dariani vel/Maryad vel
8/7	<i>Ipomoea pes-tigrides L.</i>	
3	Family: Caesalpiniaceae	
9/1	<i>Caesalpinia crista L.</i>	Kachka
4	Family: Cucurbitaceae	
10/1	<i>Coccinia grandis</i>	Ghiloda
11/2	<i>Corallocarpus epigeus (Arn.0 Cl.in HK.</i>	
12/3	<i>Luffa cylindrica (L.) M.J.Roem</i>	Galku
13/4	<i>L. acutangula (L)</i>	Jungli turia
5	Family: Cuscutaceae	
14/1	<i>Cuscuta reflexa Roxb.</i>	Amarvel
6	Euphorbiaceae	
15/1	<i>Dalechampia scanens L.</i>	
7	Family: Menispermaceae	

S. No.	Family & Scientific name	Vernacular name
16/1	<i>Cocculus hirsutus (L.) Diels</i>	Vevdi
8	Family: Papilionaceae	
17/1	<i>Mucuna prurita Hk.f.</i>	Kavach, Koyli
18/2	<i>Abrus precatorius L.</i>	Chanothi
19/3	<i>Clitoria ternatea L.</i>	Gokaran

Cultivated Plants in the study area: The major agriculture activity of this region is Sugar cane (*Saccharum officinarum*) cultivation. mainly at Talangpor, Karsad, Bhonadara and Eklera villages, The crop occupying the highest percentage of the sown area of this region is taken as the major crop and all other possible alternative crops which are sown in this region either as substitutes of the base crop in the same season or as the crops which fit in the rotation in the subsequent season, are considered as minor crop.

Major Crops: Major crops in the study area are Sugar cane (*Saccharum officinarum* L) and rice (*Oryza sativa*).

Minor crops: The minor crops of this region are Bajra (*Pennisetum typhoides*), and Jowar (*Sorghum bicolor*).

Vegetable: The vegetables grown in the study area are, ladies finger *Abelmoschus esculentus* L. Rigan (*Solanum melongena*).

Horticulture Practices and fruit grown: Horticulture activity was found to be restricted in few villages like Talangpore and Umber villages in the study area dominated by orchards of Mango and Chikoo,

Rare and Endangered flora in the study area

The IUCN Red List is the world's most comprehensive inventory of the global conservation status of plant and animal species. It uses a set of criteria to evaluate the extinction risk of thousands of species and subspecies. These criteria are relevant to all species and all regions of the world. With its strong scientific base, the IUCN Red List is recognized as the most authoritative guide to the status of biological diversity. Among the enumerated flora in the study area, none of them were assigned any threat category, by RED data book of Indian Plants (Nayar and Sastry, 1990) and Red list of threatened Vascular plants (IUCN, 2010; BSI, 2003).

Rare Massive Tree *Adansonia digitata* observed in the study area: *Adansonia digitata* L. (Bombacaceae family) is a native deciduous tree from the African Savannas. The English common name is probably derived from the Arabic bu hibab, which means fruit with several seeds. It is characterized by an unusual, swollen, relatively short, bottle shaped trunk in which spongy fibers store water for the dry season. For this reason, it is also called "bottle tree". The mature circumference can exceed 20 m; the diameter at chest height is about 10 m. African baobab is a very long-living tree. It normally lives for about 500 years, but it is believed that some trees are up to 5000 years old. It is called as Kapavriksh in India, with great mythological significance. It is reported that Natural regeneration of Baobab is poor due to the hard seed coat.

Description: The massive, usually squat cylindrical trunk gives rise to thick tapering branches resembling a root-system, which is why it has often been also referred to as the upside-down tree looking like it has been picked out of the ground and stuffed back in upside-down. The stem is covered with a bark layer, which may be 50-100 mm thick. The bark is greyish brown and normally smooth but can often be variously folded and seamed from years of growth. The baobab is leafless for nine months of the year. The leaves are hand-sized and divided into 5-7 finger-like leaflets. Being deciduous, the leaves are dropped during the winter months and appear again early summer. The large, pendulous flowers (up to 200 mm in diameter) are white and sweetly scented. They emerge in the late afternoon from large round buds on long drooping stalks from October to December. The flowers fall within 24 hours, turning brown and smelling quite unpleasant. The fruit is a large, egg-shaped capsule, covered with yellowish brown hairs. The fruit consists of a hard, woody outer shell with a dry, powdery substance inside that covers the hard, black, kidney-shaped seeds. Almost all parts of *A. digitata* are used as medicines and also possess high nutritional value.

Geographic Distribution: This enormous tree supposedly has its origin in the African continent and brought in by sailors who came to establish trade links with India; they thereafter planted them across the Indian

Kumar and Aggarwal, 2014; Ecology and Biodiversity Status of Sachin GIDC and its surroundings with special reference to Conservation measures for Indian Peafowl (*Pavo cristatus*) schedule –I bird species subcontinent.” A minority of botanists have suggested that this tree is an Indian tree which has been mentioned in historical books, etched on some of our ancient temple walls and even worshipped for ages as *Kalpa Vriksha* — the mythical wish fulfilling tree.

Distribution in the study area: Four trees of this non indigenous species were observed in the study area, two trees in Umber village and two trees in Pali village.

Status: Regarded as the largest succulent plant in the world, the baobab tree is steeped in a wealth of mystique, legend and superstition wherever it occurs in Africa. It is a tree that can provide food, water, shelter and relief from sickness. IUCN have not evaluated this species. The tree at present is facing a crisis of survival; natural regeneration potential of this tree is reported to be very poor, only very few trees observed in India.

Species Interconnections and Interdependencies: Baobab trees flower for the first time at about 20 years. In mid-summer, dozens of luminous white blossoms - the size of saucers-open at sunset and their strong musky odour attracts fruit bats and hosts of insects. Large bats seek out the sweet nectar and collect and distribute pollen as they move from flower to flower. The flower is short lived and it drops to the ground within hours of being pollinated. The resultant seeds develop in a hairy pod which resembles a miniature rugby ball. The seeds are not generally eaten by animals and are discarded, thus effecting dispersal.

Threat status: *Adansonia digitata* is an important arboreal species with very limited distribution in India, which is being faced threat into extinction. In order to preserve this genetic resource of great economic and medicinal value, studies on germination has to be carried out.



Adansonia digitata (Baobab) observed at Umber village with a GBH of 10.9 meter (35.8 feet)



Adansonia digitata (Baobab) observed at Palir village with a GBH of 3.81 meter

Endemic plants of the study area: De Candolle (1855) first used the concept of Endemic, which is defined as an area of a taxonomic unit, especially a species which has a restricted distribution or habitat, isolated from its surrounding region through geographical, ecological or temporal barriers. Among recorded plant species, during the survey period, none can be assigned the status of endemic plant of this region.

Status of Forest and their category in the study area: No natural forest land was observed in the study area except few scattered scrub cover in the barren lands and area demarcated for grazing.

Faunal Biodiversity in study area

For the documentation of the faunal biodiversity of the study area with respect to birds, reptiles, amphibians, and butterfly species, a baseline survey had been conducted in January, 2014.

Birds of the study area: The most commonly spotted bird species of this area were; Cattle Egret, Little Egret, and White-breasted Water hen, Systematic account of the birds in the study area with the status of occurrence is given in the Table 6.

Table 6. Systematic List of birds in study area with its Residential status

Old Common name	New Common Name	Scientific Name	R-S
I ORDER: APODIFORMES			
Family: Apodidae (Swifts)			
Common Swift	Common Swift	<i>Apus apus</i>	R
II ORDER: FALCONIFORMES			
Family: Accipitridae (Vulture, Sparrow hawk, Eagle, Harrier, Kite and Vulture)			
Shikra	Shikra	<i>Accipiter badius</i>	R
Black-winged Kite	Black-winged Kite	<i>Elanus caeruleus</i>	R
III. ORDER: : CICONIIFORMES			
Family: Ardeidae (Heron, Egret, Bittern)			
Pond Heron	Indian Pond-Heron	<i>Ardeola grayii</i>	R
Cattle Egret	Cattle Egret	<i>Bubulcus ibis</i>	R
Median or Smaller Egret	Intermediate Egret	<i>Mesophoyx intermedia</i> <i>Egretta intermedia</i>	R
Little Egret	Little Egret	<i>Egretta garzetta</i>	R
Family: Charadriidae (Plover, Stilt, Oystercatcher, Lapwing, Avocet)			

Old Common name	New Common Name	Scientific Name	R-S
Black-winged Stilt	Black-winged Stilt	<i>Himantopus himantopus</i>	R
Red-wattled Lapwing	Red-wattled Lapwing	<i>Vanellus indicus</i>	R
Family: Pteroclididae (Sandgrouse)			
Indian Sandgrouse	Chestnut-bellied sandgrouse	<i>Pterocles exustus</i>	R
Family: Threskiornithidae (Spoonbill and Ibis)			
Black Ibis	Red-naped Ibis	<i>Pseudibis papillosa</i>	R
IV ORDER: COLUMBIFORMES			
Family: Columbidae (Pigeon, Dove)			
Blue Rock Pigeon	Rock Pigeon	<i>Columba livia</i>	R
Ring Dove	Eurasian Collared-Dove	<i>Streptopelia decaocto</i>	R
Rufous Turtle Dove	Oriental Turtle-Dove	<i>Streptopelia orientalis</i>	R
V : ORDER: CORACIFORMES			
Family: Dacelonidae (Kingfishers)			
White breasted Kingfisher	White-throated Kingfisher	<i>Halcyon smyrnensis</i>	R
Family: Meropidae (Bee Eater)			
Chestnut-headed Bee-eater	Chestnut-headed Bee-eater	<i>Merops leschenaulti</i>	R
VI. ORDER: CUCULIFORMES			
Family: Centropodidae (Cocucal)			
Crow-Pheasant or Coucal	Greater Coucal	<i>Centropus sinensis</i>	R
Family: Cuculidae (Cuckoo, Koel)			
Koel	Asian Koel	<i>Eudynamys scolopacea</i>	R
Indian Drongo Cuckoo	Drongo Cuckoo	<i>Surniculus lugubris</i>	R
VII. ORDER: GALLIFORMES			
Family: Phasianidae (Peafowl, Partridge, Quail, francolin, spur fowl, jungle fowl, Monal)			
Common Peafowl	Indian Peafowl	<i>Pavo cristatus</i>	R
Family: Rallidae (Waterhen, coot, crake water cock, Moorhen, Rail,)			
White-breasted Water hen	White-breasted Water hen	<i>Amaurornis phoenicurus</i>	R
VIII . ORDER: PASSERIFORMES			
Family: Paridae (Tit)			
Grey Tit	Great Tit	<i>Parus major</i>	R
Family: Corvidae			
Large Cuckoo-shrike	Large Cuckoo-shrike	<i>Coracina macei</i> <i>Coracina novaehollandiae</i>	R
Raven	Common Raven	<i>Corvus corax</i>	R
House Crow	House Crow	<i>Corvus splendens</i>	R
Tree Pie	Rufous Treepie	<i>Dendrocitta vagabunda</i>	R
Family: Laniidae (shrike)			
Rufous backed Shrike	Long-tailed Shrike	<i>Lanius schach</i>	R
Grey Shrike	Northern Shrike	<i>Lanius excubitor</i>	R
Family: Muscicapidae (Short wing, Chat, Robin, Shama)			
Indian Robin	Indian Robin	<i>Saxicoloides fulicata</i>	R
Pied Bushchat	Pied Bush chat	<i>Saxicola caprata</i>	R
Family: Nectariniidae (Sun Birds, Flower pecker, Spider hunter)			
Purple Sunbird	Purple Sunbird	<i>Nectarinia asiatica</i>	R
Small Sunbird	Crimson-backed Sunbird	<i>Nectarinia minima</i>	R
Family: Passeridae (Avadavat, Pipit, Wagtail, Munia, Snow finch, sparrow, weaver, Accentor)			
House Sparrow	House Sparrow	<i>Passer domesticus</i>	R
Grey Tit	Great Tit	<i>Parus major</i>	R

Old Common name	New Common Name	Scientific Name	R-S
Family: Pycnonotidae (Bulbul)			
Red-vented Bulbul	Red-vented Bulbul	<i>Pycnonotus cafer</i>	R
Family: Sturnidae (Myna, Starling)			
Bank Myna	Bank Myna	<i>Acridotheres ginginianus</i>	R
Indian Myna	Common Myna	<i>Acridotheres tristis</i>	R
Family: Sylviidae (Warbler, Browning, Fulvetta, Babbler, Laughing thrash, Tailor birds,			
Common Babbler	Common Babbler	<i>Turdoides caudatus</i>	R
Jungle Babbler	Jungle Babbler	<i>Turdoides striatus</i>	R
Tailorbird	Common Tailorbird	<i>Orthotomus sutorius</i>	R
IX. ORDER: PSITTACIFORMES			
Family: Psittacidae (Parrot and Parakeet)			
Rose-ringed Parakeet	Rose-ringed Parakeet	<i>Psittacula krameri</i>	R

Note: R = Widespread Resident, r= Very Local Resident, RW =Resident and winter visitor.

Source: WCMC, Check list of Indian Birds (Kumaret al., 2003).

Butterflies from the study area: Butterflies observed during the present study are documented in the Table 7.

Table 7. Butterflies in Study area

#	Scientific name & family	Common name
1	Family Papilionidae	
1/1	<i>Papilio polytes</i> Linnaeus	Common Mormon
2	Family: Pieridae	
2/1	<i>Eurema hecabe</i> Linnaeus	Common Grass yellow
3/2	<i>Catopsilia pomona</i> Fabricius	Common Emigrant
4/3	<i>Catopsilia pyranthe</i> Linnaeus	Mottled Emigrant
5/4	<i>Ixias mariane</i> Cramer	White orange tip
6/5	<i>Ixias pyrene</i> Linnaeus	Yellow orange tip
2	Family: Nymphalidae	
7/1	<i>Danaus genutia</i> Cramer	Stripped Tiger
8/2	<i>Hypolimanas misippus</i> Linnaeus	Danaid egg fly
9/3	<i>Mycalesis perseus</i> Fabricius	Common bush brown

Herpetofauna: One amphibian, Skittering frog (*Euphylyctis cyanophlyctis*) was sighted in the water logged region of the study area during the survey period. Reptile's document in the region is given in the Table 9.

Table 8. Amphibian sighted in study area

#	Scientific name and family	Common name
1	Family:	
1/1	<i>Euphylyctis cyanophlyctis</i> (Schneider)	Skittering Frog

Table 9. Reptiles in the study area

#	Scientific name	Common name
1	<i>Calotes versicolor</i> (Daudin)	Common garden lizard
2	<i>Eutropis carinata</i> (Schneider)	Common or Brahminy Skink
3	<i>Ptyas mucosus</i> (Linn.)	Common rat snake
4	<i>Varanus bengalensis</i> (Daudin)	Common Indian monitor
5	<i>Hemidactylus flaviviridis</i> (Ruppell)	House Gecko
6	<i>Sitana ponticeriana</i> (Cuvier)	Fan-Throated Lizard
7	<i>Naja naja</i> (Linn.)	Indian Cobra ★
8	<i>Daboia russelii</i> (Shaw and Nodder)	Russell's Viper ★
9	<i>Bungarus caeruleus</i> (Schneider)	Common Indian Krait ★

Kumar and Aggarwal, 2014; Ecology and Biodiversity Status of Sachin GIDC and its surroundings with special reference to Conservation measures for Indian Peafowl (*Pavo cristatus*) schedule –I bird species

★= Not sighted but included as per the information provided by villagers, during the interaction with them with pictorial presentation.

Mammals: The wild mammals observed other than domesticated ones from study area is documented in the Table 10.

Table 10. Mammals in the study area

S. No.	Scientific name	Common Name
1	<i>Mus booduga</i> (Gray)	Indian field mouse
2	<i>Herpestes edwardsi</i> (Geoffroy)	Common Mongoose
3	<i>Lepus</i> sp.	Hare
4	<i>Funambulus pennanii</i> (Wroughton)	Five striped Palm squirrel

Rare and Endangered fauna of the study area

As per IUCN RED (2010) list: The IUCN Red List is the world's most comprehensive inventory of the global conservation status of plant and animal species. It uses a set of criteria to evaluate the extinction risk of thousands of species and subspecies. These criteria are relevant to all species and all regions of the world. With its strong scientific base, the IUCN Red List is recognized as the most authoritative guide to the status of biological diversity. No sighted fauna fall under any threat category of IUCN.

As per Indian Wild Life (Protection) Act, 1972: Wild Life (Protection) Act, 1972, as amended on 17th January 2003, is an Act to provide for the protection of wild animals, birds and plants and for matters connected therewith or ancillary or incidental thereto with a view to ensuring the ecological and environmental security of the country. Some of the sighted fauna were given protection by the Indian Wild Life (Protection) Act, 1972 by including them in different schedules. Among the birds in the study area, Pea fowl (*Pavo cristatus*) is included in schedule I .of Wild life protection Act (1972), while many other birds are included in schedule IV. Among the reptiles, Indian Cobra (*Naja naja*), and Common Rat Snake (*Ptyas mucosus*) were provided protection as per Schedule-II of Wild life protection act, (1972). Among mammals; Common Mongoose (*Herpestes edwardsi*), is a schedule –II mammals. Hares and five stripped squirrels are included in schedule IV of Wild Life Protection act 1972.

Table 11. Species provided Protection as per Wild Life Protection Act 1972

Group	Species	Schedule
Birds	Pea fowl (<i>Pavo cristatus</i>),	Schedule I
	Most of other birds	Schedule-IV
Reptiles	Indian Cobra (<i>Naja naja</i>),	Schedule-II
	Common rat snake (<i>Ptyas mucosus</i>)	Schedule-II
Mammals	Common Mongoose (<i>Herpestes edwardsi</i>),	Schedule-II
	Five striped Palm squirrel <i>Funambulus pennanii</i> (Wroughton)	Schedule-IV
	Hare (<i>Lepus</i> sp.)	Schedule-IV

Conservation Measures for Peacock or Indian peafowl (*Pavo cristatus*) Schedule –I bird species

No other fauna that falls under the scheduled-I category was reported from the study area except Peacock or Indian peafowl (*Pavo cristatus*). The rest of the fauna reported from the study area, falls under either in schedule-II, Schedule-III or Schedule-IV of the wild Life Protection Act 1972. Most of these species are not conservation dependant in Gujarat, and they are proliferating itself in its own habitats. Peacock or Indian peafowl (*Pavo cristatus*) is a very familiar bird of Gujarat also recognized as National Bird of India. The few population of this pheasant was reported from the some villages of the study area but located only at UMBER village and Kansad village in the study area. The male peacock is predominantly blue with a fan-like crest of spatula-tipped wire-like feathers and is best known for the long train made up of elongated upper-tail; these stiff and elongated feathers are raised into a fan and quivered in a display during courtship. The female lacks these feathers.

Description: The male, known as a peacock, is a large bird with a length from bill to tail of 100 to 115 cm (40 to 46 inches) and to the end of a fully grown train as much as 195 to 225 cm (78 to 90 inches) and weigh 4–6 kg (8.8–13.2 lbs). The females, or peahens, are smaller at around 95 cm (38 inches) in length and weigh 2.75–4 kg (6–8.8 lbs). Indian Peafowl are among the largest and heaviest representatives of the Phasianidae family. Their size, color and shape of crest make them unmistakable within their native distribution range. The male is metallic blue on the crown, the feathers of the head being short and curled. The fan-shaped crest on the head is made of feathers with bare black shafts and tipped with bluish-green webbing. A white stripe above the eye and a crescent shaped white patch below the eye are formed by bare white skin. The sides of the head have iridescent greenish blue feathers. The back has scaly bronze-green feathers with black and copper markings. The scapular and the wings are buff and barred in black, the primaries are chestnut and the secondary is black. The tail is dark brown and the train is made up of elongated upper tail coverts (more than 200 feathers, the actual tail has only 20 feathers) and nearly all of these feathers end with an elaborate eye-spot. A few of the outer feathers lack the spot and end in a crescent shaped black tip. The underside is dark glossy green shading into blackish under the tail. The thighs are buff colored. The male has a spur on the leg above the hind toe. Peacocks are polygamous, and the breeding season is spread out but appears to be dependent on the rains. Several males may congregate at a lek site and these males are often closely related. Males at lek appear to maintain small territories next to each other and they allow females to visit them and make no attempt to guard harems. Females do not appear to favor specific males. Peafowl are omnivorous and eat seeds, insects, fruits, and reptiles. A large percentage of their food is made up of the fallen berries. Around cultivated areas; peafowl feed on a wide range of crops such as groundnut, tomato, paddy, etc. Around human habitations, they feed on a variety of food scraps. In the countryside, it is particularly partial to crops and garden plants.

Habitat: The Indian Peafowl is found mainly on the ground in open scrub forest or on land under cultivation where they forage for berries, grains but will also prey on snakes, lizards, and small rodents. Their loud calls make them easy to detect, and in forest areas often indicate the presence of a predator such as a tiger. They forage on the ground in small groups and will usually try to escape on foot through undergrowth and avoid flying, though they will fly into tall trees to roost. The bird has a celebrated status in Indian mythology, and hence protected culturally in India especially in Gujarat. The Indian Peafowl is listed as Least Concern by IUCN.

Status in the study area: No peacock was sighted in the s site. All the direct sightings of the peacock were located near the agriculture lands or near habitations. This species is well adapted to natural village environment setting. Day time they temporarily move towards the surrounding agriculture areas for feeding while during night time they roost on the trees present in the village and in the agriculture hedges

Threats in the Study Area: No perceptible threats were identified in the villages surveyed. Village residents are against hunting or poaching of the peafowl, due to culture and mythology reasons. Adult peafowl can usually escape ground predators by flying into trees. Foraging in groups provides some safety as there are more eyes to look out for predators.

Conservation through Habitat Improvement and Awareness: Habitat improvement programme will be undertaken through plantation of suitable tree species in the surrounding villages. While selecting the tree/shrub species care shall be provided for beery plants which attract these birds. During summer period, villagers will be encouraged to use the old earthen pots to fill with water for drinking these birds. Summer is the time when these. Birds are facing shortage of feeds; there by supplying the feed like Bajri, Juwar, Maize to the identified villages will suffix the problem of food shortage. The proponent can directly supply these feed to the villages directly or by funding to the NGOs active in this mission.

CONCLUSION

The trees, herbs, shrubs, climbers and major crops, observed during the biological survey conducted. Total 39 species of trees belong to 22 families are enumerated from the study area. Dominant tree species planted as farmland plantation was dominated, *Mangifera indica* (Keri), *Borassus flabellifer* (Tad), *Phoenix sp*, *Adirachta indica* (Limbado), *Casuarina equisetifolia* (Sharu), *Ailanthus excelsa* (Aurdso), *Eucalyptus sp* (Nilgari), and *Albizia lebbeck* (Siris) etc. Homestead plantation was dominated by *Tamarindus*

Kumar and Aggarwal, 2014; Ecology and Biodiversity Status of Sachin GIDC and its surroundings with special reference to Conservation measures for Indian Peafowl (*Pavo cristatus*) schedule –I bird species *indica* (Amali), *Mangifera indica* (Keri), *Moringa oleifera* (Sargavo), *Pithecellobium dulce* (Gorasmli), *Ficus benghalensis* (Vad), and *Cocos nucifera* (Narial). Total 23 shrub species belong to 15 families are enumerated from the study area. Total 59 species of herbs belongs to 25 families were documented from the sampling plots laid in different habitats. Total 19 species of climbers/ twiners belongs to 8 families are recorded from the area. Climbers/ twiners in the study area dominated by, *Ipomoea pes-tigridis* (Wagpadi), *Ipomea pes-caprae* (Dariani vel), *Ipomea aquatica* (Nali ni Bhaji), *Coccinia grandis* (Ghiloda), *Luffa cylindrica* (Galku), and *Abrus precatorius* (Chanothai). The most commonly spotted bird species of this area were Cattle Egret, Little Egret, Brahmyini Myna, Indian Roller and White-breasted Water hen, etc. Faunal species recorded in the study area includes 4 types of mammals, 35 types of birds, 9 type of Reptiles and 9 types of butterflies. Among the birds in the study area, Pea fowl (*Pavo cristatus*) is included in schedule I of Wild life protection Act (1972), while many other birds are included in schedule IV. Among the reptiles, Indian Cobra (*Naja naja*), and Common Rat Snake (*Ptyas mucosus*) were provided protection as per Schedule-II of Wild life protection act, (1972). Among mammals; Common Mongoose (*Herpestes edwardsi*), is a Schedule–II mammals. Hares and five stripped squirrels are included in schedule IV of Wild Life Protection act 1972. None of the sighted animal species can be assigned endemic species category of the study area. The study concludes that the study area has diverse flora and fauna but it is becoming progressively worse by industrial development in the surrounding vicinity. The Indian peafowl is schedule-I bird and it needs special protection. Some villagers hunt them for their feathers and flesh. Villagers used peafowl feathers to make domestic and ornamental articles and sell them for earning. There is a need of awareness to protect and save the Indian peafowl. Due to the industrial development in Sachin, the surrounding area has been polluted with waste water which can be seen on floral diversity. Some trees have been dried. The rare trees *Adansonia digitata* represent the rich floral diversity of the area. There is a need of special attention to protect all the rare trees and fauna by the authority.

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CONFLICT OF INTEREST : Nothing