

KAMLA NEHRU PRANI SANGRAHALAYA,
INDORE



Annual Report for the year
2017-18



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Report of the Officer-in-charge

Dr. Uttam Yadav, Director – Indore Zoo



It brings me great pleasure to bring out this annual report for the year zoo 2017-2018, which highlights some of the immense work done at Indore Zoo during this period.

Fundamentally the establishment of Zoo is aimed at ex-situ conservation breeding, education and research. Indore zoo is currently housing 57 indigenous and exotic species numbering around 621 specimens.

The breeding programs especially for Lions, Tiger, Wolf, Ghariyals, fox has given excellent results. Indore Zoo has been attracting lakh of visitors every year and visitor facilities include clean and green gardens, information kiosks, canteen, parking etc.

I am thankful to ***Smt. Malini Laxmansingh Goud***, Hon. Mayor of Indore, ***Shri Ashish Singh***, IAS ; Commissioner - Indore Municipal Corporation and ***Shri Rohan Saxena***; Addl. Comm – IMC (Zoo) for their immense support and guidance in management of Indore Zoo.

I also would like to acknowledge and thank my support team and staff for their dedication and hard word which has together resulted in over all development of the Zoo.

History of the Zoo :

Kamla Nehru Prani Sangrahalaya or Indore Zoo is a zoological garden located in Navlakha, Indore is fully owned and managed by Indore Municipal Corporation. This is the largest zoological garden of the state and one of the oldest zoological parks of Madhya Pradesh spread over an area of 52 Acres.



New Mega Entrance under construction of Indore Zoo

KAMLA NEHRU PRANI SANGRAHALAYA

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Our Vision:

Our vision is to be the leading ex-situ conservation organization in the country with a world class facility for Wildlife Conservation and Education.

Our Mission:

Our Mission is to mobilize communities to commit to the conservation of wildlife. We will achieve this by connecting people through following ways:

- > **Leading the Way** by communicating and demonstrating the role of conservation and research in all we do.
- > **Opening the door** by providing exceptional wildlife education that reach beyond the boundaries of our campuses.
- > **Catalysing action** through inspiring experiences that motivate participation, leading to conservation and sustainability outcomes through conservation breeding and exemplary animal welfare and care.

ZOO GOAL:

Indore Zoo is an ex situ conservation and breeding centre which thrives to emerge as a dedicated conservation, research and education facility for all wildlife enthusiast.

Zoo has a tagline as follows which is religious followed by all our staff members:

To Conserve, Educate and Re create!

Apart from serving as a conservation centre, Education is given as a top priority at Indore Zoo. From educational signage to talk shows, workshops, events and seminar; we are dedicated to achieve our common goal of Awareness to Action to produce future wildlife ambassadors!

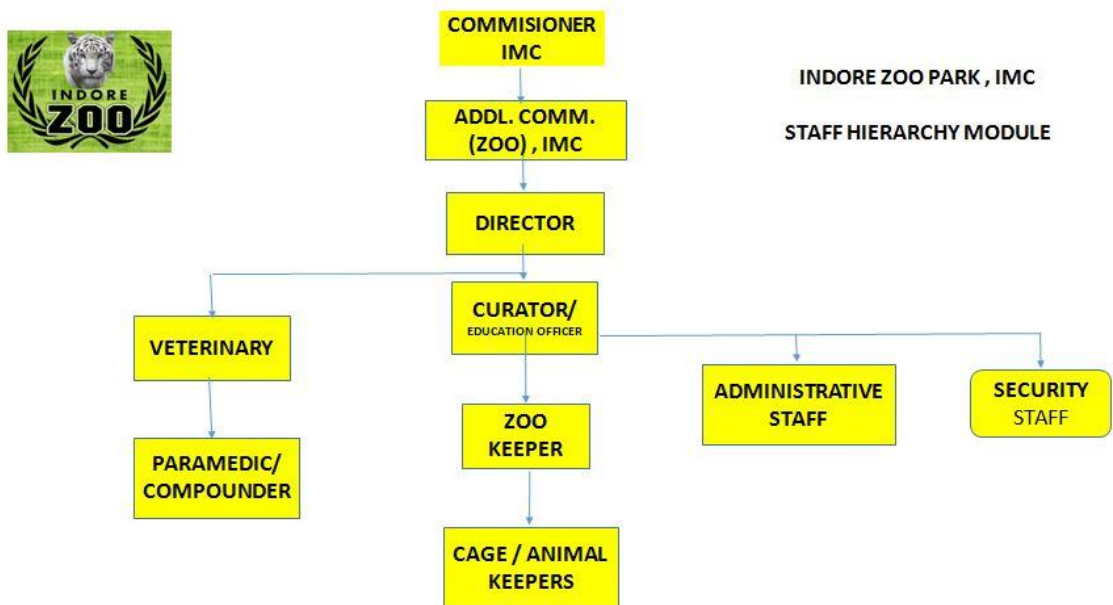
About us

S.No.	Particulars	Information
Basic Information about the Zoo		
1	Name of the Zoo	Kamla Nehru Prani Sangrahalaya
2	Year of Establishment	1974
3	Address of the Zoo	Navlakha, Indore.
4	State	Madhya Pradesh
5	Telephone Number	744 044 2236
6	Fax Number	-
7	E-mail address	<u>indorezoo@gmail.com</u>
8	Website	<u>www.indorezoo.in</u>
9	Distance from nearest	Airport: 11 km
		Railway Station: 2.4 km
		Bus Stand: 1 km
10	Recognition Valid upto (Date)	January 2019
11	Category of zoo	Small
12	Area (in Hectares)	52
13	Number of Visitors (Financial Year) 2017-2018	Total Indian : 1521392
		Total Foreigners : 335
		Total Visitors: 1521459

S.No.	Particulars	Information
14	Visitors' Facilities Available in Zoo	Toilets, Canteen, Wheel Chair, Baby Tramps, Sign Boards, First Aid, Zoo Police, Zoo Corps (Guides), Gardens, Parking.
15	Weekly Closure Day of the Zoo	Monday
Management Personnel of the zoo		
16	Name with designation of the Officer in-charge	Dr. Uttam Yadav
	Name of the Veterinary Officer	Dr. Akhilesh Upadhyay
	Name of the Education Officer /Curator	Er. Nihar Parulekar
	Name of the Biologist	-
	Name of Zoo Keeper	Rakesh Yadav
	Name of the Compounder/ Lab Assistant	Munir Khan
Owner / Operator of the Zoo		
17	*Name of the Operator	Indore Municipal Corporation
18	Address of the Operator	Nagar Nigam, Indore.
19	Contact details/Phone number of Operator	Commissioner, I.M.C 7440443322
20	E-mail address of Operator	indorezoo@gmail.com

Organizational Chart

The Zoo has a dedicated staff of around **120 employees** along with *Engineering and Gardening section*, with a working hierarchy as following:



Human Resources

Manpower of the Zoo*

S.NO.	Name of Post	Post Sanctioned	Post Filled Up	Vacant
1.	Officer Incharge/Director	1	1	0
2.	Veterinary Officer	1	1	0
3.	Education Officer/Curator	1	1	0
4.	Senior Clerk	1	1	1
5.	Zoo Supervisor	1	0	1
6.	Clerk	3	1	2
7.	Compounder	1	0	1
8.	Zoo Superintendent	1	1	0
9.	Computer operator	1	1	0
10.	Driver	3	3	0
11.	Feed Store Keeper	5	1	4
12.	Zoo keeper	1	1	0
13.	Mahout	1	1	0
15.	Mistri	1	1	0
16	Security Guard	2	24 (22 outsourced)	0
17.	Store Keeper	1	0	1
18.	Mali	11	11	0
19.	Admin Staff (Cashier/Booking clerk/Office Staff)	12	8	4
20.	Sapera	1	1	0
21.	Ayaa	2	1	1
22.	Bhishti	2	0	2
23.	Beldar	5	25 (20 musteroll)	0
24.	Paramedic Staff	2	2	0
25.	Painter & Artist	1	0	1
26.	Black smith	2	0	2
27.	Welder	1	1	0
27.	Welder Asst.	1	1	0
28.	Electrician	2	2	0

29.	Plumber	1	1	0
30.	Animal Keeper	5	4	1
31.	Cage Keepers	20	20	0
32.	Peon	1	1	0
33.	Sweepers (Musteroll)	-	4	0

Total Staff Sanctioned: 116, Total Staff Working - 120

1. Capacity Building of zoo personnel

Sl.No.	Name and designation of the zoo personnel	Subject matter of Training	Period of Training	Name of the Institution where the Training attended
1.	Er. Nihar Parulekar , Education Officer/Curator	ZIMS	2 Days	National Zoological Park, Delhi.
2.	Munir Khan, Asst. Zoo Keeper	Zoo Keeper Training	1 week	Sakkarbaugh Zoo, Junagarh.
3.	Sanjay Solanki , Animal Keeper	Zoo Keeper Training	1 week	Sakkarbaugh Zoo, Junagarh.

2. Zoo Advisory Committee –

Under constitution.

3. Health Advisory Committee–

a. Date of constitution : 3/5/2017

b. Members:

Dr. Uttam Yadav (Director – Indore Zoo);
Member - Mhow Govt. Veterinary College.

c. Dates on which Meetings held during the year :

3/5/2017; 3/9/2017, 3/1/2018.

4. Statement of income and expenditure of the Zoo

Visitation and Revenue

Indore Zoo is open to public from Tuesday to Sunday (6 Days) and every Monday is a Zoo holiday. The Tariff for entry into the Zoo is Rs 10/- for 3 years and above.

Timings of the Zoo

March to June: 9:00 AM to 7:00PM, July to Feb: 9:00 AM to 6:00 PM

Revenue of the Zoo for the F.A 2017-2018:

From Ticketing: Rs. 1,52,13,920.

Camera Ticketing: Rs. 81,650.

Foreign Visitors : Rs. 33,500

Other Income: Rs. 1,66,68,440.

Total Income: **Rs. 1,66,68,440.**



5. Daily feed Schedule of animals

Sl.No.	Species	Feed item	Quantity per animal		Day of fasting
			Winter	Summer	
1.	Birds Pheasants & Fowls Peacocks Parrots & Lorry, Parakeets Emu	Mixed Grains, Green Vegetables, Germinated Green Gram, Seasonal Fruits, Crush Maize, Crushed Sorghum, Pearl Millet	100 gms 25 gms 25 gms 100 gms 25 gms 50 gms	100 gms 25 gms 25 gms 100 gms 25 gms 50 gms + Calcium , Multivitamin drops & ORS mixture to prevent dehydration	Nil
2.	Egyptian vulture Eagle Owl Barn Owl Rosy Pelican Sauras Crane Painted Stork Ibis	Rats, Chicken Liver, Fish, Keema	200-250 gms, 1 Rat (alternate day), 300 gms	200-250 gms, 1 Rat (alternate day), 300 gms	Monday
3.	Macaque, Langoor	Mixed Green Vegetables, Seasonal Fruits	300-400 gms per fruit, 700 gms vegeables.	200-300 gms per fruit, 600 gms vegeables.	Nil
4.	Reptiles: Python Crocodile Mugger Gharial Flapshell Turtle , terrapins, Star tortoise	Live Chicken, Live Rabbit, (Python) (Mugger) Chicken Meat, Mutton, (Tortoise)	2 rabbit/chicken twice a week (Python), 3 kgs chicken/mutton twice a week	2 rabbit/chicken twice a week (Python), 3 kgs chicken/mutton twice a week	

	Monitor Lizard, Iguana	Green Vegetables, (Turtle/Monitor Lizard) Fish, Boiled Eggs,	(Crocodile), 300 gms fishes (Ghariyal), 100 gms vegetables, 100 gm fish / 2 eggs(Monitor Lizard), 50 gms vegetable.	(Crocodile), 300 gms fishes (Ghariyal), 100 gms vegetables, 100 gm fish / 2 eggs(Monitor Lizard), 50 gms vegetable.	
5.	Porcupine Hedgehogs Pam civet	(Porcupine) Vegetables, Fruits, Chicken Liver, Boiled Eggs	200 gms (Fruits/Vegetable) 100 gms, 50 gms, 2 boiled eggs	200 gms (Fruits/Vegetable) 100 gms, 50 gms, 2 boiled eggs	
6.	Herbivores : Sambar Deer, Nilgai	Concentrated Mix Green Grass Dry Hay feed	600 gms 20 kgs 10 kgs	600 gms 20 kgs 10 kgs	
7.	Spotted Deer, Black Buck, Chinkara,	Concentrated Mix Green Grass Dry Hay feed	400 gms 15 kgs 05 kgs	400 gms 15 kgs 5 kgs	
8.	Elephant Hippopotamus	Concentrated Mix, Green Grass, Vegetables, Sugar Cane (Elephant) Wheat Cake, Tree Leaves	10 kgs, 80 kgs, 10 kgs, 20 kgs, 5 kgs, 1 Qnt. (Hippo) 10 Kgs, 40 Kgs, 5 Kgs. (Potato)	10 kgs, 80 kgs, 10 kgs, 20 kgs, 5 kgs, 1 Qnt. (Hippo) 10 Kgs, 40 Kgs, 5 Kgs.(Potato)	
9.	Black Bear Sloth Bear	Vegetables, Fruits, Wheat Cake, Meat Biryani, Milk and	100 gms 2 kgs 2 kgs 2 kgs	100 gms 2 kgs 2 kgs 1 kgs	

		Honey, Milk Rice Honey	1 ltrs / 50 gm, ½ ltr + ½ kg + 25 gms	1 ltrs / 50 gm, ½ ltr + ½ kg + 25 gms	
10.	Lion	Mix of Beef, Mutton, Pork, Chicken.	Male – 11 kgs Female – 9 kgs	Male – 10 kgs Female – 8 kgs	Monday
11.	Tiger	Mix of Beef, Mutton, Pork, Chicken.	Male – 8 kgs Female – 7 kgs	Male – 7 kgs Female – 6 kgs	Monday
12.	Leopard	Mix of Beef, Mutton, Pork, Chicken.	Male – 5 kgs Female – 4 kgs	Male – 4 kgs Female – 3 kgs	Monday
13.	Jungle Cat	Mix of Beef, Mutton, Pork, Chicken.	800 gms	500 gms	Monday
14.	Hyena	Mix of Beef, Mutton, Pork, Chicken.	1.5 Kg	1Kg	Monday
15.	Wolf	Mix of Beef, Mutton, Pork, Chicken.	1.5Kg	1Kg	Monday
16.	Jackal	Mix of Beef, Mutton, Pork, Chicken.	1 Kg	800 gms	Monday
17.	Fox	Mix of Beef, Mutton, Pork, Chicken, Boiled Eggs	500 gms + 2 Boiled Eggs	400 gms + 1 Boiled Egg	Monday

6. Vaccination Schedule of animals

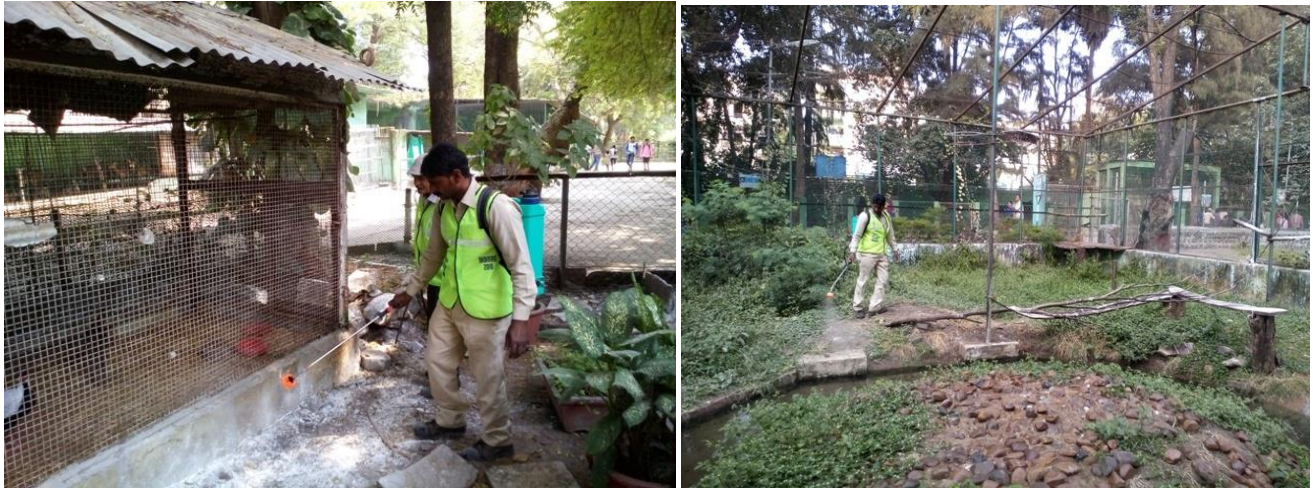
Sl.No.	Species	Disease vaccinated for	Name of the Vaccine and dosage/ quantity used	Periodicity	Remarks
1	Felid Family	Feline Panleukopenia	Vanguard Raksha Rab	Yearly Yearly	
2	Canid Family	C.D. Parve I.C.H. CAV – 1, CAV - 2 Rabies	Vanguard Raksha Rab	Yearly Yearly	
3	Herbivores	H.S. BQ FMD	H.S. B.Q. FMD	Before on set of Monsoon	

7. De-worming Schedule of animals

Sl.No.	Species	Drug used	Month
1	Carnivores	Albendazole Bolus/ Kiwof Plus XL/Fenbendazole/vermectine	Quarterly
2	Herbivores	Albendazole Bolus/ Kiwof Plus XL/Fenbendazole/vermectine	Quarterly
3	Birds	Albendazole Bolus/ Kiwof Plus XL/Fenbendazole/vermectine	Quarterly
4	Reptiles	Albendazole Bolus/ Kiwof Plus XL/Fenbendazole/vermectine	Quarterly

8. Disinfection Schedule

Sl.No.	Species	Type of enclosure	Disinfectant used and method	Frequency of disinfection
1	Carnivores	Open/ Semi Dry	D 125, BioShields, Enviroguard Spray using electric pump	Weekly
2	Herbivores	Open / Wet/Semi Dry	D 125, BioShields, Enviroguard Spray using electric pump	Weekly
3	Birds	Closed / Dry	D 125, BioShields, Enviroguard Spray using electric pump	Weekly
4	Reptiles	Closed / Dry	D 125, BioShields, Enviroguard Spray using electric pump	Weekly



9. Health Check-up of employees for zoonotic diseases

A total of 120 Zoo employees work at Indore Zoo. We conduct medical test for zoonotic and other diseases once a year. This year also the test was conduct on 31st May and findings were as below.

- No one was diagnosed with any Zoonotic diseases.

Total no. of Employee tested: 120

Normal: 86

High Cholesterol: 18

Diabetic: 13

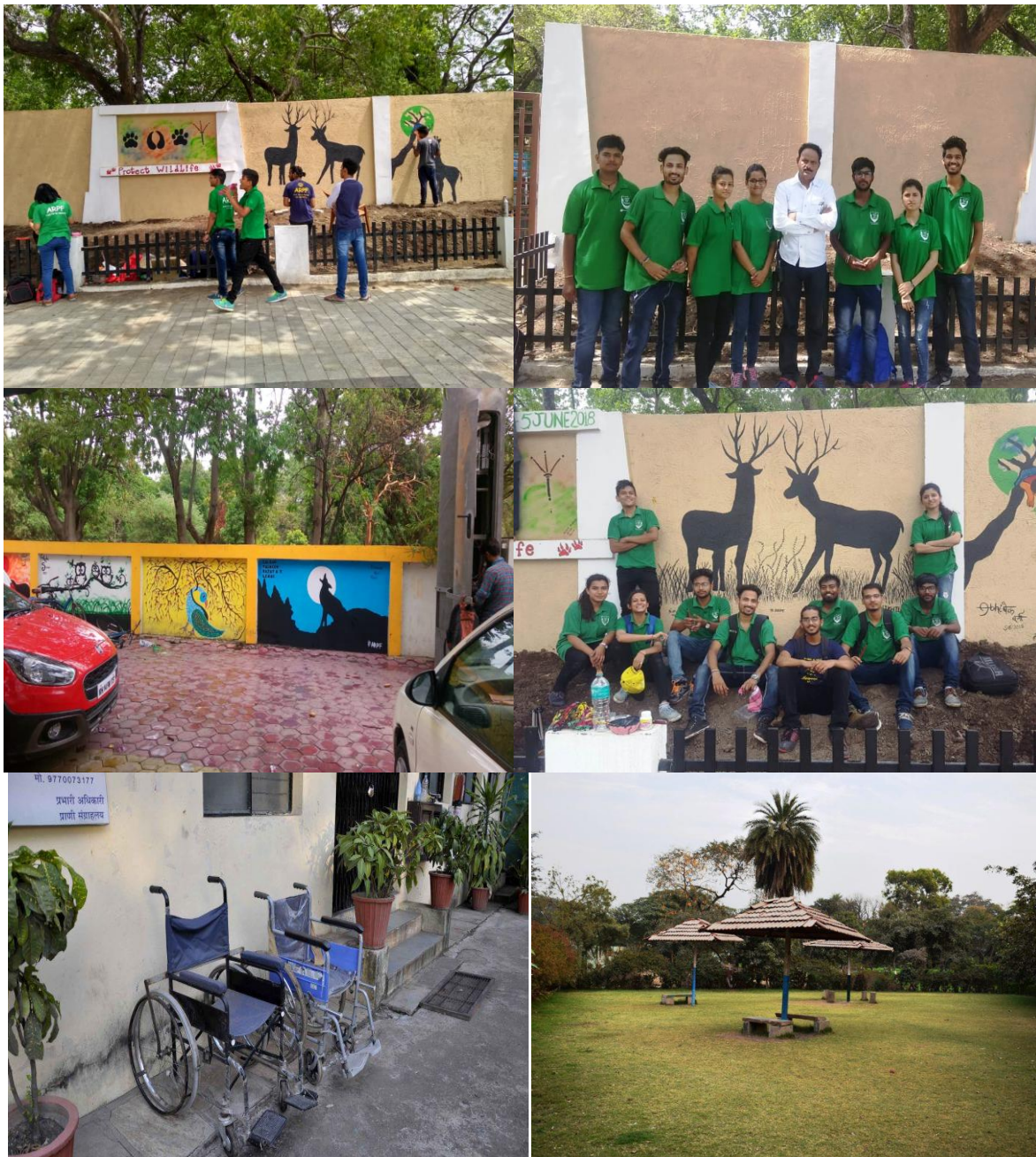
Anaemic: 3

10. Development Works carried out in the zoo during the year

Indore Municipal Corporation and Zoo management is constantly working for the betterment of Zoo so as to provide better environment and enclosures for our inmates, excellent public facilities while ensuring compliance of all the norms, rules and regulations of Central Zoo Authority. This year development work carried out in the zoo is as follows:

- Development of Gardens, Open Bird Park and Butterfly garden.
- Increase of Boundary Wall height of the Zoo with razer fencing.
- Installation of CCTV Cameras, Control Room and Public Addressal System.
- Induction of 8 Motorola Walky Talky sets for better communication among management and animal keepers.
- Construction of New main gate of the Zoo.
- New wildlife themed Selfie points and water falls for public education and attraction.

- Enrichment and repair of enclosures and facilities for housing animals.
- Development of Fodder Bank at the Zoo on 8 acre land.
- Construction of new kiosk and shades for public facility during rainy season.
- Mega Plantation work undertaken inside the zoo especially on footpaths and new enclosures.
- Construction of new souvenir shop at the Zoo.
- Painting of Zoo boundary walls on the theme of wildlife conservation to spread the message of conservation among public.
- Up gradation and construction of new washrooms and toilets.
- New Wheel chairs and children tramps for visitors.
- Up gradation of our zoo Hospital.
- Painting and enrichment work of our enclosures.



11. Education and Awareness programmes during the year :

Education Officer's Message: **Er. Nihar Parulekar.**



Indore Zoo is an institution which is committed to the conservation and welfare of wildlife. It is not only a place to see but also a place to learn and contribute. From our specialized conservation breeding program to dedicated research and internships, we at Indore Zoo constantly thrive to provide our visitors with best possible experiential learning visit.

Animals at the zoo are ambassadors for their cousins in the wild. From constantly working to provide our animals with naturalistic and enrichment filled moats to taking care of their nutritional needs and hygiene protocol, our ground team at Indore zoo work hard to fulfil all the criteria laid down by CZA to provide best housing for our wild inmates.

With special focus on Wildlife education, we have initiated many workshops, seminars, carnivals, outreach modules for schools and guest talks to facilitate our visitors with best opportunity to learn and contribute towards conservation.

I would personally like to thank my *Director – Dr. Uttam Yadav* for his guidance and support in designing and successfully implementing all educational events at the Zoo. I am also thankful to all our volunteers, media partners and visitors for helping us grow and mature as a conservational educational organization through their participation.

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- **Launched Zoo Ambassador Network:** Largest in the state, this network offered wildlife enthusiasts to stay connected, learn and contribute towards zoo educational outreach and zoo news.
Total Signups: 1559
- **Specialized Education Workshops:** We conducted special educational workshop based on species and environmental days to engage and educate visitors, students on short educational projects. Every month one workshop was held at Zoo Conference room which shortly saw an increase in the participation numbers due to our unique modules.
Some of the Workshops held: *Young Zoo Keeper, Zoo Keeper for a Day, Know your Reptile, Which Avian is it?, Dig your Reptile, Mega Jumbo class, etc.*
- **Zoo SnooZee Program:** Special Zoo Snooze workshop was held for the first time in the state to give visitors specialized experience of walking through the ex situ habitat and watch our nocturnal animals active.
- **Environment Days celebrations:** Special Environmental days and activities were conducted to keep visitors hooked on to our conservation educational efforts. Visitors were educated and involved in various fun related activities to learn importance of wildlife conservation and biodiversity importance. Each environmental day were outreached through our media network for the city to learn and gain.



Days celebrated were as follows:

1. Tiger Day
2. Elephant Day
3. Lion Day
4. Wetland Day
5. Earth Day
6. Sparrow Day
7. Environment Day
8. World Ocean Day
9. World Forest Day
10. World Water Day
11. World Migratory Bird Day., etc

- **World Wildlife Week:** Amidst much fanfare, wildlife week was celebrated as a grand carnival at Indore Zoo. A week filled with special guest lectures, NGO stalls, environmental games, Drawing/Painting/Quiz activities for schools, zoo clean drives, special talk and feeding shows for students and visitors were held.

Experts on 4 topics were flown in from different parts of the country to educate our visitors and students on specialized conservation challenges and issues. Mega Plantation drives were held and students were educated about the importance and role of Zoo in ex situ conservation.

- **Weekly shows/Activities:** 20 Zoo Corps have been trained who help zoo staff on every weekend and public holiday in vandalism control, zoo guided tours and educational shows. Special Snake Awareness shows, Animal Feed Shows are held every Sunday to educate mass visitors about wildlife and its eco habitats.
- **Specialized Internships:** Special Wildlife internships are held for students from various institutions on wildlife and zoo conservation for free of cost. Students are trained and educated on importance of Wildlife and Zoo role in conservation and to give them exposure to wildlife conservation.

Total no. of Interns for 2017-2018: 598

**Visitors benefitted from Zoo Education Activities from June 2017 to
March 2018**

Private School Students:	48,185.
Government School Students:	9,311.
Other Institution/NGO's:	15,409.
Workshops/Guided Tours:	36,321.
Internship :	598.
Environment Days:	15,569.
Total:	<u>1,25,394.</u>

Other Non Assessed Educational initiatives/modules:

- *Zoo Education Boards.*
- *Social Media E learning portals (FB, Website).*
- *Open Educational Talk Shows at animal Moats.*

Zoo Education Van: Developing first of its kind in the state, Zoo Education van for wildlife and ex situ conservation outreach for underprivileged and rural target groups.



PHOTOS OF ACTIVITIES





12. Important Events and happenings:

Apart from the Education programs and daily routine at the zoo, we at Indore Zoo are also engaged in various other activities to promote environment and also involve public in important national events and activities. Few of the activities are as follows:

- > Celebration of World Yoga Day.
- > Cyclothon and Wildlife Treasure Hunt.
- > Celebration of Zoo Day at the Zoo.
- > Employee team building programs.
- > Sports Meet for Employees and Employee family members.
- > Blood Donation Camps.
- > Healthy checkup camps for Family members of employees.
- > Wildlife Photo Walk and Exhibition.
- > Animal Adoption Drives.
- > Newspaper collection drives to remain plastic free. Etc.

निजी संस्था ने शावक को लिया गोद, एक साल का खर्च उठाएंगे



पत्रिका @ इंदौर • कमला नेहरू प्राणी संग्रहालय में एक शावक को निजी संस्था ने गोद लिया है। एक अप्रैल 2018 से 31 मार्च 2019 तक शावक के खर्च-पौने का भुगतान संस्था ही करेगी। संस्था ने इसके लिए एक लाख 71 हजार रुपये की राशि भी चिड़ियाघर प्रबंधन को सौंपी है। संस्था जैसी स्पोर्ट्स फंडेशन की अध्यक्ष माया चौधरी व डायरेक्टर जितेंद्र चौधरी ने बताया कि भूक वन्य प्रशियों के उत्थान व उनके प्रति संबोधना व्यक्त करते हुए शावक को एक वर्ष के लिए गोद लेने का संकल्प लिया है। शुरुआत जाम संस्था ने अमर अत्युक्त रोहन



संस्करण की उपस्थिति में चिड़ियाघर प्रभारी डॉ. उचम शर्मा को राशि का चेक सौंप दिया। इस अवसर पर पत्रिका के पीआरओ गणेश चौधरी भी मौजूद थे। आभार संस्था के अनिल खन्नेगी ने माना।



13. Seasonal special arrangements for upkeep of animals

We at Indore Zoo ensure proper seasonal enclosure enrichment and arrangements for our inmates so that the animals feel no discomfort or suffer from any disease. As the climatic changes during summer and winters are at extreme, special care is taken to ensure our animals don't feel the pinch of it.

During summer:

- > Applying of Khas curtains in all enclosures and watering them thrice a day during peak time.
- > Installation of Water dessert coolers in night shelters, Drip foggers in open enclosures especially for all mammals, birds and reptiles.
- > Special Water supplements are added to the water source for all animals to keep them hydrated.
- > Hourly reporting by cage keepers on any abnormal behaviour in animals is done.

During winter:

- > Installation of Heat pads, Heat bulbs, Heaters, bedding material for all animals/birds/reptiles.
- > Closing of direct wind ventilation side with 80% green net knit.
- > Hourly reporting by cage keepers on any abnormal behaviour in animals is done.

During rainy season:

- > Installation of Barsati (Plastic sheets) on roof top of all open enclosure.
- > Special disinfectant drives to ensure no infection to animals.
- > Special dry bedding in night shelters of all animals.
- > Hourly reporting by cage keepers on any abnormal behaviour in animals is done.



How the Indore zoo is keeping its residents cool

Photo: Anurag Singh



CONTINUED FROM PAGE 1

"We have also made an arrangement wherein water keeps dripping from bay on top of their enclosures. The birds and reptiles that are sensitive to severe heat, their enclosures are covered on three sides with bamboo is temporary shelter made with cane and bamboo. Water is sprinkled on the water twice in the afternoon, so the birds and reptiles stay very cool. Puddles of water and mud have been made for the deer and elephants. The mud works as a sunscreen for most of the animals."

Besides all this, many fruit bearing trees have been planted in the zoo and water sprinklers are on 24/7 to keep the ground wet. Every cage has one cage keeper to ensure that animals are being taken care of properly.

The animals are inactive between noon and 4 pm, and prefer to rest in the cool open areas.

THE RIGHT DIET

Dr. Umang Yadav, the director of Indore zoo informs, "Lioness meals, rich in minerals and lipid contents, are given to animals during summer. The zoo veterinarians study each animal separately and diets are planned accordingly. The summer diet strengthens the immunity of animals to heat heat." He further adds, "We have multiple water coolers and kiosks installed for visitors as well. And many shaded air-outs have been erected for visitors, but visitors should avoid coming to the zoo between 1 pm to 4 pm as most of the animals are inactive during that time."



LEARN TO BE A ZOO KEEPER

A workshop for wildlife lovers will be organized in the zoo on April 16, which is part of the education module that the authorities follow. The workshop is for adults and will let visitors see and understand the functioning of the zoo from close quarters. Enthusiasts will get to visit quarantine zones and will be made to learn about the food enrichment and animal care that a zoo keeper needs to follow."



14. Research Work carried out and publications

Indore Zoo also acts as an education and research centre for veterinary college and science college students. A total **598** Msc and Bsc Zoology and other science stream students did their research and group projects at Indore zoo on topics such as Animal Behaviour, Zoo Management, Zoo Conservation, Free ranging flora and fauna of Indore Zoo, etc.

A total of **170** Veterinary students completed their one week wildlife field training at Indore Zoo.

15. Conservation Breeding Programme of the Zoo

Indore Zoo inhibits many critically endangered species. Special conservation breeding programs are run for species such as Tigers, Lions, Sloth Bear, Python, Fox, Wolves, Chinkara, Gharials, Peafowls.

In the annual year 2017 -2018, Indore zoo successfully bred Lions (4), Sloth Bears (3), Gharials (10), Wolf (8), chinkara (2).



Zoo celebrates birth of four she-wolf pups, expecting more with fingers crossed

♦ **TINA KHATRI**
INDORE

Persistence and perseverance are the two among many words of wisdom found more in variety of moral books than in common man, so we know. But, for city zoo authorities the words seem to be virtues to live by.

After putting on dedicated efforts to breed wolves (*Canis lupus pallipes*) for years for offsprings, their efforts finally paid off as one of the she-wolves gave birth to four little ones last month and another is due the coming week. Though getting a click or peek of little ones is difficult due to their shy nature, their presence can be felt because of movements.

Celebrating their success, zoo authorities are taking extra care of the pregnant she-



wolf and the new born pups. Talking about wolves, zoo curator Nihar Parulekar said, "Though Indian wolves tend to breed from mid-October to late December, and whelp in holes or ravines, they are too shy and conservative so breeding them in enclosures is next to impossible."

He explained that animals deteriorate from their natural behaviour in breeding as well because of changes in

their life patterns. "Carnivores including wolf that preys on antelopes, rodents, and hares adapt to living in smaller places and depend on feeding instead of hunting for survival and that of course leads to many more changes in their life patterns," Parulekar said.

With gestation period of two months, it is not a long wait till whelps are born but it usually a longer wait till



whelps come out and dazzle visitors. "Most visitors in zoo are school children, who are amused by pups and we lucky to have new friends waiting for them," Parulekar said.

2000-3000 WOLVES IN THE WILD

Although it is supposedly protected as an endangered species in India under schedule 1 of the Indian Wildlife

Act of 1972, the Indian Wolf is still hunted because of its attacks on children and livestock. The greatest threat to the Indian Wolf's survival is persecution by poison, and habitat loss due to intensive agriculture, development, and industry. A study released in 2004 estimated between 2000 and 3000 Indian Wolves remaining in the wild.

GHARIAL'S BREEDING SEASON NOT FAR AWAY

Hoping the mojo to continue, zoo authorities are planning to breed 'Gharials' in their upcoming April-May breeding season. "We are hoping to get lucky with Gharial's breeding as well, and in case breeding is successful then we can hope to have little ones in rainy season," Parulekar said.

16. Animal acquisition / transfer / exchange during the year

A.	Animals arriving in the Zoo				
	H.NO.	Species	Number (M:F)	From which Zoo	Date of arrival in the zoo
	-	-	-	-	-
B.	Animals going from the zoo				
	H.NO.	Species	Number (M:F)	Going to which Zoo	Date of deposition from the zoo
	[KNPSI00057/INDORE]	Hippopotamus	0:1	Sayaji Baug Zoo, Vadodra	10/4/2017

17. Rescue and Rehabilitation of wild animals carried out by the Zoo

Sl.No.	Date of Rescue	Species with number of animals rescued with their sex (M:F:U:T)	Received from	Date of Submission of Report to the CWLW / CZA	Action taken	
					Date and Place of rehabilitation in their habitat	Reasons for housing in the zoo, if not released in their habitat
1.	18/6/2017	Asian Elephant 0:1	Forest Department, Indore Range	20/6/2017 23/12/2017		Custodial case in High court

19. Mortality of animals

Sl.No.	Animal Name (with individual identification mark, if any)	Scientific Name	Sex	Date of Death	Reason of Death as per the Post-mortem report
17	Star Tortoise	<i>Geochelone elegans</i>	0:0:3 0:0:2	21/2/2017 25/2/2017	Pneumonia Pneumonia
18	Sand Grouse	<i>Pteroclididae</i>	1:1:0	29/6/2017	Shock
19	Star Tortoise	<i>Geochelone elegans</i>	0:0:6	15/8/2017	Adhesion in Vital organs
20	Star Tortoise	<i>Geochelone elegans</i>	0:0:4	21/12/2017	Hepatitis
21	Budgerigar	<i>Melopsittacus undulatus</i>	2:0:0	26/12/2017	Senility
22	Pelican Rosy	<i>Pelecanus onocrotalus</i>	1:0:0	6/1/2018	Senility
23	Dove	<i>Gelopelia</i>	1:0:0	12/1/2018	Senility
24	Leopard	<i>Panthera pardus</i>	0:1:0	24/1/2018	Senility
25	Jungle Cat	<i>Felias chaus</i>	1:0:0 0:0:2	24/2/2018 26/2/2018	Senility. Cannibalism

20. Compliance with conditions stipulated by the Central Zoo Authority

COMPLIANCE REPORT

Sno.	Rule 10 Norm No.	Conditions Stipulated	Time Period to Comply	Status with regard Compliance of the conditions
1	1(6)	The Labourers staying inside the zoo campus near entrance, next to the spotted deer enclosure should be immediately shifted outside the zoo premises.	Immediately	Labourers are shifted.
2	1(9)	The Zoo has been housing many wild animals next to domestic animals. The same is not acceptable. The Domestic animals like turkey etc should be removed immediately from the zoo premises.	Immediately	Domesticated animals like Turkey is removed from the exhibit area next to wild animals.
3	2(1)	The Officer in Charge/Director should be working full time with the zoo. He should not be assigned any other work of the Municipal Corporation as of presently followed.	Immediately	Proposal has been sent for the same to MIC for the same.
4	2(1)	The financial power of the officer-in charge/ Director should be such that he can carry out the emergency works at the zoo or to procure feed for the animals during emergencies.	Immediately	Proposal has been sent for the same to MIC for the same.
5	3(3)	The Zoo should implement disaster management plan as approved by the CZA, by conducting mock drills, awareness programme for the staff and visitors, etc.	Immediately	The same is been followed and regular drills are conducted. 45 CCTV cameras and PA system as been installed throughout the zoo as part of the same.
6	3(6), 4(3) and 4(5)	The Zoo should house the animals in the animals' exhibit which are approved by the CZA in the Master (Layout) Plan.	Immediately	The same is been followed.

7	3(8)	3 No. of Chinkaras rescued and kept at zoo should be kept off display and should be updated in the inventory.	Immediately	The same has been done and inventory has been updated accordingly.
8	4(1)	The Zoo should provide appropriate screening between the visitors and animal houses at Hyena enclosure	Immediately	The same has been done through plantation.
9	4(1)	The inside the campus of the zoo as well as inside the animal enclosures should not be painted with any colour.	Immediately	The same has been done.
10	4(3)	In the Elephant enclosure, the wall towards the housing colony should have adequate buffer or the height of the wall should be raised in order to stop any mis-happening in future.	Six months	The Same has been done.
11	4(3)	The Zoo should expedite shifting of surplus animals (Rhesus Mazaques, Bonnet Macaques, Common Langur, Spotted Deer, Black buck) to other recognized zoo in consultation and prior approval of CZA	Six months	The Same will be done soon. Exchange talks under process with other zoo. Exchange proposals will be sent to CZA soon.
12	4(5)	The Zoo has established a fox breeding centre in the public viewing area since 30.5.2015. The same should be kept-off exhibit.	Three months	The same has been kept off exhibit with immediate effect.
13	4(6)	The Gharial enclosure should be provided sand for basking.	Immediately	The same has been done. Every year gharials are breeding at our zoo enclosure

				and around 25-30 gharials are hatching
14	4(6)	The Hippopotamus should be provided with soft substrate in the enclosure.	Immediately	The same has been done as part of enclosure enrichment.
15	4(6)	The Elephant enclosure should be provided with sufficient amount of sand/soil to meet the biological behaviour of the elephant.	Three months	The same has been done.
16	5(2)	The enclosure of Python was seen with the dead chicken drowned in the water which should have been removed immediately. In future such situation should be avoided by keeping vigil to avoid such situation.	Immediately	The same has been done with immediate effect.
17	5 (2)	The Standard diet as prescribed by IVRI should be followed by the zoo for the animals housed at the zoo.	Immediately	The same has been changed and followed now.
18	5(10) & 7(2)	The records pertaining to the animals are not maintained in the prescribed format of the CZA. The zoo should prepare individual Animal History Sheet, Treatment Records, Keeper Diary, PM report in the format as prescribed by the CZA	Immediately	The same has been done. Records are maintained in the prescribed format of CZA.
19	9(1)	The Monitor Lizards should be sexed immediately.	Immediately	The same has been done and inventory has been updated accordingly.

20	9(9)	The Spotted deer housed in the Zoo are beyond the carrying capacity of the enclosure. Necessary action should be taken immediately to control their population.	Immediately	The same has been done. Birth control protocols by segregating males and females are followed for the same.
21	11(2)	The Snake show conducted every Sunday at the Zoo should be stopped with immediate effect.	Immediately	The Same has been stopped.
22	12(2)	The Zoo should keep anti snake venom and the first aid kit in the zoo hospital or in administrative office area.	Immediately	The same has been kept as the Zoo Office.

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List of free living wild animals within the zoo premises

a. Mammals of Indore Zoo :

- Mongoose
- Palm Civet

b. Birds of Indore Zoo :

- Greater Coucal
- Jungle Babbler
- Peacock
- White breasted Waterhen
- Red Wattled Lapwing
- Purple Sunbird
- Purple rumped Sunbird/ Purple rumped Sunbird Ecilipse
- Green Beeater
- Oriental Magpie Robin
- Jungle Crow
- Pond Heron
- Rufuos Treepie
- White throated kingfisher
- Black Drongo
- Laughing Dove
- House Crow
- Rose ringed parakeet
- Alexandrine parakeet
- Black kite
- Ashy Prinia
- Copper smith barbet
- Grey Hornbill
- Common tailorbird
- Shikra
- Little Egret
- Rock pigeon
- Common Myna
- Eagle Owl
- Spotted owlet
- Asian Koel
- Red vented bul bul
- White browed fantail
- Common minivet
- Little Cormorant
- Paradise Flycatcher
- White crested cuckoo

Butterflies of Indore Zoo

- Common Jezebel
- Yellow Grass
- Small Yellow Grass
- Plain tiger

c. Reptiles & Amphibians of Indore Zoo :

- Rat snake
- Common Indian Cobra
- Russel's Viper
- Checkered Keelback
- Common Krait
- Common Sand Boa
- Garden Lizard
- Striped skink
- Common toad
- Bull Frog

LIST OF TREES AT INDORE ZOO

General Name	Scientific Name
Slender Amaranthus	Amaranthus Viridis L
Wild oat	Avena fatua L
Prickly Chaffflower	Achyranthus aspera
Scarlet Pimpernel	Anagallis arvensis
Mexican Poppy	Argemone maxicana
Bermuda grass	Cynodon dactylon
Dodder	Cuscuta Reflexa
Bind weed	Convolvulus arvensis
Nutsedge	Cyprus rotendus
Wild Jute	Corchorus acutangulus
Lambsquate	Chenopodium album
Australian spinach	Chenopodium murale
Thorne apple	Datura Fastoosa
Purslane	Portulaca alaracea
Cleome	Cleome icosandra
Black night shade	Solonum Nigrum
Wild ber	Zizypus rotundifolia
Niruri	Phyllanthus niruri
Carpet weed	Trianthema monogyna
Big spurge	Euphorbia hirto
Small spurge	Euphorbia Microphylla
Yellow sweet clover	Mehlotus alba
White sweet clover	Mehlotus indica

Canary grass	Phalaris minor
Caltrop	Tribulus terrestris
Tiger grass	Saccharum spontaneum
Lathyrus	Lathyrus sativus
Common Vetches	Vicia Hirsuta
Indian gum arabic	Acacia Arabica
Baobab	Adansonia digitata
Davils tree	Alstonia scholaris
–	Anthocephalus kadamb
Araucaria	Araucaria cookil
Margosa tree	Azadirachta indica
Orchid tree	Bauhinia blakeana
Red silkcotton tree	Bombax ceiba
Flame of the forest	Butea monosperma
Golden bottle brush	Melaleuca bracteata
India laburnum , Golden shower	Cassisa fistula
	Cassia siamea
Australian oak	Casuarinas equisetifolia
White cotton tree	Ceiba pentandra
South indian red wood	Dalbergia sissoo
Peacock flower, flame tree	Delonix regia/Poinciana regia
Eucalyptus	Eucalyptus citriodora
Banyan tree	Ficus bengalensis
Willow fig	Ficus benjamina
	Ficus religiosa
Black willow fig	Ficus benjamina black
	Ficus retusa
Mango	Mangifera indica
Indian cork or tree jasmine	Millingtonia hortensis
Indian medlar	Mimusops elenge
Rusty shield bearer	Peltophorum pterocarpum
Frangipani	Plumeria obtuse
Mast or Indian fir	Polyalthia longifolia
Indian beech	Pongamia pinnata
Childlife tree	Putranjiva roxburghii
	Saraca asoca
African tulip	Spathodia companulata
Rosy trumpet	Tabebuia rosea
Tamarind	Tamarindus indica
Indian tulip	Thespesia populneus
Indian tulip	Thespesia populneus var.
Oriental arborevitae	Thuja orientails
Guava	Psidium guajava
Lime	Citrus aurantifolia
Papaya	Carica papaya
Banana	Musa paradisiacal
Ber	Zizyphus rotundifolia
Aonla	Embilica officinalis
Mulberry	Morus alba
Golden apple	Aegle mrmelos

Java plum	Eugeni clumini
Rayan tree	Manilkara hexandra
Drum stick	Moringa oleifera
Date palm	Phoenix dactylifera
Almond	Prunus amygdalus
sandal wood	Santalum album
Wood apple	Limonia acidissima
Sweet tamarind	Pithecellobium dulce
Teak	Tectona grandis
White lead tree	Leucaena leucocephala
Bamboo	Bambusa vulgaris
River tea	Melaleuca bracteata
Cluster fig tree	Ficus glomerata
Indian cheery	Cordial dichotoma
Dypsis Palm	Dypsis lutescens
Date Palm	Phoenix dactylifera
Bismark palm	Bismarckia nobilis
Fishtail Palm	Caryota urens
Pygmy date palm	Phoenix roebelenii
Table Palm	Livistona rotundifolia
Milkweed	Calotropis gigantea
Acalypha	Acalypha hispida
Pride of Barbados	Caesalpinia pulcherrima
	Caesalpinia pulcherrima flava
Calliandra	Calliandra emarginata
Croton	Codiaeum variegatum "Glory"
Cuphea (False Heather	Cuphea hyssopifolia
Dombeya	Dombeya wallichii
Golden Duranta	Duranta repens "variegata"
Eranthemum	Eranthemum albo maginatum
Eranthemum	Eranthemum bicolour
Eranthemum	Eranthemum nigrum
Hierba mala	Euphorbia cotinifolia
Caricature plant	Graptophyllum pictum
Hamelia	Hamelia patens
China rose	Hibiscus rosa sinensis
Chinarose double	Hibiscus rosa sinensis Red satin
Ixora	Ixora singaporensis
Jatropha Red	Jatropha duckfoot
Lantana	Lantana camara
Chinese bux	Murraya exotica
Oleancler	Nerium oleander "Album"/Carnea
Aralia	Polyscias balfouriana
Aralia	Polyscias guilfoylei
Cape jasmine	Tabernaemontana coronara
Tecoma	Tecoma gaudichaudi
Orange tecoma	Tecoma capensis
Periwinkle	Vinca rosea alba
Bougainvillea	Bougainvillea sp.

Aglaonema	Aglaonema sp.
Alocasia	Alocasia cadierei
Asparagus marry	Asparagus densiflorus "Myers"
Asparagus	Asparagus densiflorus Sprengeri
Dumbcane	Diffenbachia amoena
Dracaena	Dracaena mahatma
Ficus Yellow	Ficus panda
Var. Ficus	Ficus benjamina "Variegata"
Song of India	Pleomele reflexa "Variegata"
Syngonium	Syngonium Podophyllum
Ferns	Nephrolepis Biserrata
Ferns	Asplenium nidus
Nolina	Beaucarnea recurvata
Crown of Thorns	Euphorbia milii
Giant false agave	Furcraea gigantic
Rose	Rose spp
Balsum	Impatiens balsamina
Canna	Canna indica
Castor	Ricinus communis
Pedilanthus	Euphorbia tithymaloides
Money plant	Epipremnum aureum
Spider lily	Hymenocallis caribaea
Var. Bamboo	Bambusa multiplex F. Variegata



~ Thank You ~