

Ofc Central Zoo Authority

Diary No.....19.....

Date.....23/3/12.....

Certificate as prescribed by CZA

This Master Plan has been prepared by Mr.B.Vijayaraghavan, Executive Chairman, Chennai Snake Park Trust.



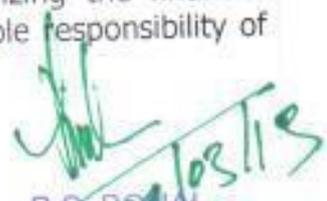
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EXECUTIVE CHAIRMAN
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Countersigned

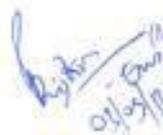
MEMBER SECRETARY
CENTRAL ZOO AUTHORITY
NEW DELHI 110 011.



Master Plan of the Chennai Snake Park, Chennai, Tamil Nadu is approved subject to the condition that the responsibility of mobilizing the financial resources for implementation of the Master Plan will be sole responsibility of the Chennai Snake Park Trust, Chennai, Tamil Nadu.



B. S. BAWA
Member Secretary
Central Zoo Authority
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PREFACE

This Master Plan has been prepared in compliance with the stipulation of CZA that all zoos recognized by it should have duly approved Master Plans.

The Chennai Snake Park Trust was first granted recognition by CZA in 1995 which has been renewed from time to time. The current period of recognition is till July 2015. It is categorized as a Small Zoo.

The zoo and the appurtenant facilities occupy an area of one acre.

As on 30.06.2013, the Snake Park had on display 22 species of Indian snakes, three species of Indian crocodilians, two species of exotic crocodiles, three species of Indian turtles/tortoises, one exotic turtle and four species of Indian larger lizards, making a total of 35 species.

Considering the small and compact size of the Park, various alterations have been made to the layout of the zoo from time to time on an *ad hoc* basis.

In view of the fact that the occupation of the land with zoo enclosures, buildings and other structures has already reached saturation point, there is a little scope for any additions. However, whatever is absolutely necessary has been included in the Master Plan.

This Master Plan is due to be taken up for a revision after 10 years depending on the needs at that time.

B. VIJAYARAGHAVAN
EXECUTIVE CHAIRMAN
CHENNAI SNAKE PARK TRUST
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PART I

CHAPTER I

1. Introduction

1.1. The Chennai Snake Park Trust (Madras Snake Park Trust as it was known till 1997) was established in the year 1972, mostly on the initiative of Romulus Whitaker, the well-known herpetologist, actively supported by a group of public-spirited men interested in wildlife. A copy of the Trust Deed is in Annexure – 1.

1.2. A major activity of the Trust is to run a Snake Park. Though called a ‘Snake Park’ it houses not only snakes but also crocodilians, the larger lizards and turtles and tortoises. It is called a ‘snake park’ instead of ‘reptile park’ only for the reason that the term ‘reptile’ does not convey much to the lay-public.

The Park is run as a means of education of the public on snakes and other reptiles of which the public know so little and have little chance to know enough in the normal course. This ignorance leads to aversion and fear resulting in their wanton killing.

1.3. The Snake Park is located in a corner of the Guindy National Park on an extent of one acre of land owned by the Government of Tamil Nadu and leased by it to the Trust. It is 12 km. away from Chennai Central Railway station and 11 km. away from Chennai Airport. It is well-served by the public transport system.

1.4. The lease is renewed from time to time and the present period of lease will expire in the year 2026. Considering the services rendered by the Snake Park to the public and to the cause of conservation of reptiles in particular and the environment in general, the State

Government have been good enough to fix the lease rent at a nominal amount of ₹ 120 (Rupees one hundred and twenty only) per year. A copy of the lease deed is in Annexure – 2.

1.5. The Chennai Snake Park Trust is a not-for-profit NGO under an elected Board of Trustees consisting mostly of non-officials experienced in administration, wildlife management, financial management, veterinary care and zoo education, some of whom are officers retired from the Indian Administrative Service and the Indian Forest Service having experience in these areas. There are also official nominees on the Board representing the Government of Tamil Nadu (Wildlife Warden, Tamil Nadu Forest Dept. and Joint Director, Tamil Nadu Tourism Dept.), the Government of India (Officer-in-charge, Zoological Survey of India and the Regional Deputy Director, Wildlife Regional Office (SR)) and the University of Madras (Head, Department of Zoology). The names of the members of the Board of Trustees as in Mar. 2013 are given in Annexure – 3.

1.6. The mission of the zoo:

- i) To maintain and display a captive collection of snakes and other reptiles as a means of eliciting public interest in them and prompting the public to empathize with them.
- ii) To promote knowledge among the public on reptiles and amphibians and dispel the widespread erroneous beliefs about snakes in particular and, to this end, conduct awareness programmes targeting students primarily and also teachers and bring out low-priced publications with technical, semi-technical and popular content
- iii) To aid and assist research on reptiles and amphibians including the conduct of surveys to assess their status and distribution;
- iv) To undertake captive breeding of endangered species of reptiles

- v) To canvass public support for the protection and conservation of reptiles and amphibians.

1.7. The aims and objectives of the Chennai Snake Park Trust are given in Annexure – 4.

The principal objective is to promote knowledge on snakes and other reptiles and dispel the numerous erroneous beliefs about them and promote the cause of conservation by explaining to the public the many fascinating aspects of these animals and the beneficial role that they play in the environment. Display of live species at the Snake Park is part of the means to this end since this plays a vital role in eliciting public interest in the subject and without such public interest and public support, all governmental or non-governmental efforts at conservation are bound to fail sooner or later, as is now widely admitted. Other connected programmes towards this end are daily lecture-displays at the Snake Park, maintenance of an interpretation centre with extensive display of information on blown-up, illuminated photographs of snakes and crocodilians, maintenance of a museum of preserved specimens, maintenance of a well-equipped library on snakes and other reptiles, and wildlife and environment in general, publication and sale of scientific and semi-scientific literature on the subjects, zoo education and outreach programmes for students and teachers and members of the public including officials of the Forest and Fire and Rescue Service departments who, in the course of their work, have occasions to confront snakes and whose assistance is sought by the public for removal of snakes from residential areas and their translocation to the wild.

1.8. The Chennai Snake Park received statutory recognition from the Central Zoo Authority (CZA) in 1995 who have classified it, as at present, as a 'Small' Zoo.

1.9. Also on the premises are the following:-

- (i) A museum of preserved specimens and models of reptiles and amphibians

(ii) A library of literature on snakes and other reptiles and amphibians and on wildlife and environment in general. This is an important resource base but is not adequate enough considering that most of the publications on these subjects – both journals and books – are foreign ones, and are costly. Authoritative books and reputed periodicals on reptiles are also rarely found in other Zoo libraries or other similar libraries. It is necessary to have an annual plan for refurbishing the library with technical books and technical periodicals.

The Library room has been recently modernized extending the floor area and providing adequate number of wooden and steel cupboards for books.

The titles and authors of all books in the library have been entered in the excel format and made available for viewing on a computer placed in the library.

The Library now has a total of nearly 2000 books apart from back numbers of technical journals.

(iii) A book shop selling books, journals, posters and picture post cards on snakes and other reptiles. The last three years' sales details are given in Annexure – 5.

(iv) **Interpretation Centre –cum-lecture room:**

One of the principal objectives of the Trust is to promote knowledge among the public on snakes and other reptiles and dispel the widespread erroneous beliefs about them. In pursuance of this, an interpretation centre on snakes and crocodilians has been constructed and it was thrown open to the

public in January 2010. Subsequently also, various facilities have been added to this from time to time.

This has been constructed and equipped partly with assistance from the CZA and partly with the own funds of the Trust. The interpretation centre has the following facilities;

One hundred and thirty-four back-lighted display boards (133 of which measure 24" x 18" and one 48" x 24"), showing blown-up photographs of snakes and crocodilians and giving salient information on them in English and Tamil. The 48" x 24" back-lighted display board gives an algorithm for rough and ready identification of venomous and non-venomous snakes of India.

Of the 88 blown-up images of snakes, 55 are of less-known snakes of India. It has particularly to be mentioned that, out of these, seven (marked with an asterisk) have never appeared in photographs so far. The snake photographs have been supplied mostly by Ashok Captain, the well-known snake photographer and snake taxonomist and joint author of *Snakes of India-The Field Guide* and some by S.R. Ganesh, Research Scientist in the Trust.

Altogether, the Centre has pictures of 16 common Indian snakes, 55 uncommon Indian snakes, 12 exotic snakes and the three Indian crocodilians. A list of snakes and crocodiles whose images are displayed is in annexure – 6. Of these, seven photographs, all by S.R. Ganesh, are of Indian snakes whose photographs have never appeared anywhere before.

Further, there are back-lighted display boards, 45 of 24" x 18" size and one of 48" x 24" size giving a wealth of information in English and Tamil on the

natural history and other relevant details of snakes and crocodilians including false beliefs about snakes and the truth. Information is also displayed about snake-bite and treatment.

Apart from the display boards in the static mode as detailed above, there are two scroll boards describing the natural history of snakes and showing some common Indian snakes.

In addition, there are six LCD displays with embedded software-based media players and content access servers continuously displaying video films on snakes by Romulus Whitaker and Shekar Dattatri and also information on snakes in a dynamic mode.

Four times a day, a few representative species of snakes are openly displayed in a designated area enclosed in a 9' high cubicle, abutting a wall and covered by glass on the other three sides and located within the Interpretation Centre. There is provision for voice-over from a pre-recorded CD in English, Tamil and Hindi giving information about each of the species displayed.

Attached to the interpretation centre is a lecture-room for conducting awareness programmes for members of the public, particularly students. This has a ceiling-mounted projector, wall-mounted screen and a touch-screen kiosk, from which images can be projected on to the wall-mounted screen.

Also, mounted on the wall are photographs of 25 herpetologists, who, during the last 220 years, studied Indian snakes. Many of these likenesses are not adequately known.

Such a comprehensively-equipped interpretation centre for reptiles does not exist anywhere else in India.

2. The Snake Park attracts over eight lakhs visitors in a year of whom one-fourth are children. The details of visitors are in Annexure – 7.

2.1. The details of income and expenditure are in Annexure – 8.

2.2. A toilet block on modern lines was built for visitors in the year 1996. In 2010, a toilet for orthopaedically handicapped and very old visitors was added.

2.3. Special provisions such as ramps have been built for the convenience of visitors who are physically challenged, giving them easy access to the snake enclosures and the Interpretation Centre

2.4. Drinking water fountains have been provided in the premises.

2.5. Water is a scarce resource in the Park especially considering the needs of the animal enclosures. There is not enough of ground water in this location and the existing two bore-wells are just enough. In the past prior to the construction of the second borewell, when the supply was not enough, water had to be purchased. Possibilities of getting supply from the Metropolitan Water Supply Board have to be explored.

2.5. Rest facilities have been provided in the premises.

2.6. For better security in the Park, four CCTV cameras have been installed at sensitive spots in the Park.

2.7 In Jan. 2009, the stand-off barriers made of G.I. were replaced with stainless steel barriers.

2.8. The lumber room in the premises was in a dilapidated condition and this has been demolished and a new room has been constructed recently.

2.9. Vehicle parking: There is a large piece of land measuring approximately 0.405 hectare in front of the entrances to the Snake Park and the adjoining Forest Dept. Children's Park (zoo) which are located side by side. This land has all along been utilized for parking vehicles coming to both these facilities. The majority of visitors visit both the facilities together.

2.10. Between April and June, Chennai has typical tropical climate with a pronounced summer. May and June are the hottest months of the year, monthly maximum temperatures usually ranging from 37° c to 39° c and minimum from 26° c to 28° c. During December and January, the mercury goes down to 29.5° c to 27° c maximum and 19° c to 22° c minimum. Relative humidity ranges from 15% to 97%.

2.11. The terrain is plain. The tropical Coramandal dry evergreen forest, indigenous to this area, has been retained with little disturbance. During the period the area has been under the possession of the Trust, additional plantings have been done subject to the constraints of space. Thirtysix species of trees are found in the Snake Park. A list showing the number of each species is in Annexure – 9. There is no scope for additional plantings in view of the lack of clear ground space and because of the shade from the existing dense canopy.

2.12. The larger species of free-ranging animals are absent except bonnet macaques (*Macaca radiata*) which are mostly visitors from the adjoining Guindy National Park. This is only a minor and occasional problem and, in any case, there is no solution to this within the capability of the snake park since it is only an occupant of a 0.4 hectare corner plot in the extensive National Park measuring 270 hectare within the compound of the Forest Dept.

Since the area is very small and mostly occupied by buildings and because of the frequent movement of large groups of visitors in the limited space available, there is practically no scope for free-ranging animals. A checklist of fauna present in the Park is in Annexure – 10.

2.13. A layout of the Park is in Annexure – 11. The layout, drawn to scale, shows the present enclosures and facilities and the improvements proposed. These are in different colour codes as indicated on the lay-out.

2.14 The structures in the premises, apart from reptile enclosures, are buildings for office, Interpretation Centre, room for housing snakes which are off-display, conference hall, library, laboratory, ticket counter, book-sales counter, toilets, rest-shed for employees, drinking water fountains and seating facilities for the public.

2.15. Except for some assistance received from outside agencies, particularly the Central Zoo Authority on an occasional basis towards capital expenditure, the entire expenditure on the Snake Park, both capital and revenue has been taken care of by gate collections. The gate fee is revised from time to time and currently stands at ₹ 15 for adult and ₹ 5 for child. This will need to be increased in due course.

2.16. The Central Zoo Authority has been a source of great support in providing funds for construction / modernization of enclosures / interpretation centre on a part-grant or full grant basis depending on the nature of the work.

CHAPTER II

1. The animals

1.1. Spread over the area of one acre are seven blocks for snakes consisting of 36 glass-fronted enclosures. This includes an aquarium block for sea snakes and turtles with six glass-fronted water tanks. Apart from these, there are 23 large-sized open enclosures with parapet walls around for housing crocodiles, turtles and tortoises and the larger lizards i.e. six for the larger lizards and three for turtles and tortoises and 14 for crocodiles. (Since the crocodiles are in pits, the total height from the ground level of the pits to the top of the parapet wall and the weld-mesh above will be seven feet).

1.2. At present, the Snake Park has twenty-two species of Indian snakes, all three species of Indian crocodilians, two species of exotic crocodiles, three species of Indian turtles/tortoises, one exotic turtle and four species of Indian lizards, making a total of 35 species. A detailed list is in Annexure.- 12.

1.3. Out of the above 35 species, 32 species are native to India and, of these, 14 species are listed in Schedules I and II of the Wildlife (Protection) Act, 1972 and are thus deemed to be in special need of protection. These are listed in Annexure – 13.

1.4. The Central Zoo Authority, in its letter No.F-7-4/99/CZA (M) dated 14.2.2003, has given a list of ‘critically endangered animals in Indian zoos’ and, out of this list, 23 species are maintained in the Snake Park. These are listed in Annexure – 14.

1.5. Five snake cages have been earmarked for quarantine purposes for snakes (including two large ones for pythons).

2. Collection plan

2.1. Stocks of species already found in the Chennai Snake Park and of new species are obtained from other zoos under exchange programmes or as gifts. So far, Nandakanan Zoological park (Bhubaneshwar), Alipur zoo (Kolkata), Kolkata Snake Park, Kamala Nehru Zoological Park (Ahmedabad), Madras Crocodile Bank and Pillikula Biological Park, Mangalore have figured in such programmes. In addition, we have made unilateral gifts to some of the zoos like the National Zoological Park (New Delhi), Arignar Anna Zoological Park (Chennai), Nehru Zoological Park (Hyderabad), Sundervan (Ahmedabad) and Pilikula Biological Park (Mangalore). These programmes need to be pursued vigorously. The Chennai Snake Park is in a position to give to other zoos marsh crocodile (*Crocodylus palustris*), Nile crocodile (*Crocodylus niloticus*), Spectacled cayman (*Caiman crocodilus*) and reticulated python (*Python reticulatus*) and should try to get in exchange monocellate cobra (*Naja kaouthia*), banded krait (*Bungarus fasciatus*), water monitor (*Varanus salvator*), yellow monitor (*Varanus flavescens*), desert monitor (*Varanus griseus*), Ganges softshell turtle (*Aspiderates gangeticus*), riverine turtle (*Chitra indica*) and terrapin species (*Kachuga* spp.). Specimens are also obtained from the wild to the minimum extent necessary for research and educational purposes under special purpose permits issued by the State Govt. in terms of Sec.12 of the Wildlife (Protection) Act, 1972 in respect schedules II and IV animals.

For pursuing of action under the collection plan, existing specimens have been sexed to the maximum extent feasible. Details of sexes as in June 2013 are in Annexure 12.

2.2. The specific information on relevant species is furnished below:

Name of the species	Existing stock		Proposed acquisition		Proposed source
	M	F	M	F	
					Zoos within the country having surplus for exchange or gift
Monocellate cobra (<i>Naja kaouthia</i>)	-	-	2	2	“
Banded krait (<i>Bungarus fasciatus</i>)	-	-	2	2	“
Water monitor (<i>Varanus salvator</i>)	-	-	2	3	“
Yellow monitor (<i>Varanus flavescens</i>)	-	-	2	3	“
Ganges softshell turtle (<i>Aspiderates gangeticus</i>)	-	-	2	3	“
Riverine turtle (<i>Chitra indica</i>)	-	-	2	3	“
Terrapin species (<i>Kachuga spp</i>)	-	-	2	3	“

3. Staff pattern

3.1. The Chairman of the Board of Trustees is also the Chief Executive. The post has recently been re-designated as Executive Chairman. The post is honorary.

The following staff function under him:

Director	-	1
Research Scientist who also performs the duties of Education officer and Biologist	-	1
Office staff	-	6
Animal Keepers	-	7
Night Watchmen	-	3
Gate Keepers	-	2
Sanitary worker	-	1

Total		21

3.2. Veterinary assistance is provided by two of the Trustees, who are fully qualified and experienced veterinarians.

- i. Dr. Gowri Mallapur, M.V.Sc. On-site Veterinarian at the Madras Crocodile Bank Trust / Centre for Herpetology.
- ii. Dr. M.G. Jayathangaraj, M.V.Sc., Ph.D., Faculty Member of the Madras Veterinary College, Chennai

They are always available for attending to any calls from the Snake Park. Some of the staff have also acquired enough in-house experience.

With a view to improve the veterinary care of reptiles in the Park, an MOU between Chennai Snake Park Trust and the Tamil Nadu Veterinary and Animal Science University (TANUVAS), Chennai was executed on 30.11.2011.

4. Research

4.1. It is among the objectives of the Trust to carry out research on snakes and other reptiles. The scientists of the Snake Park and biologists from outside have done some research in the Snake Park but this work has to be further intensified. Research papers published based on the work done in recent years are listed in Annexure – 15.

The Board has sanctioned a post of Research Scientist for doing a survey of the herpetofauna of Shevaroy and Kolli hills, Eastern Ghats, India from October 2010. The duration of the project is three years.

4.2. In Sept. 2008, the Defence Research Development Establishment of the Ministry of Defence (DRDE), Govt. of India, sanctioned a research project in the Snake Park to ascertain the efficacy of certain chemicals as snake repellents. The project which was for two years has been completed in Sept. 2010 and the report furnished to the DRDE.

5. Captive breeding

The Chennai Snake Park is ideally suited to be the nodal or an associate agency for a captive breeding programme for select species of reptiles. The question of captive breeding programmes in Indian zoos was discussed at an International Conference on India's Conservation Breeding Initiative held in Feb.2008 at New Delhi, sponsored by the CZA. The working group on reptiles at this conference recommended captive breeding of water monitor (*Varanus salvator*) and pythons. Subsequently, in Annexure - 35 of the *Legislation, Policy Guidelines and Strategies for Zoos in India* brought out by CZA in 2009, the list of species to be taken up for conservation breeding programme in Indian zoos has been furnished. In this list, under reptiles, king cobra, water monitor and painted roof turtle alone figure. The Chennai Snake Park has not been included among the coordinating zoos / participating zoos in regard to these.

6. Veterinary facilities

The existing facilities in the veterinary lab are detailed in Annexure – 16 .

7. Awareness programmes

7.1. Awareness programmes on snakes and other reptiles are being conducted by the Snake Park for the schools in Chennai and in the adjoining districts with financial assistance from the Ministry of Human Resource Development supplemented by the Trust's own resources from 1997. So far, 2,322 teachers and 1,51,202 students have been trained during the period from 1997. However, this assistance from the Ministry has not been forthcoming from 2006. Some assistance was obtained in one subsequent year from the National Biodiversity Authority and in another year from the Tamil Nadu State Council for Science and Technology.

These arrangements are not sufficient for continuing the programme on a sustained basis year after year.

7.2. Awareness programmes for adults are also conducted at periodical intervals.

7.3. In addition, training classes are conducted for the personnel of the Forest Department and Fire and Rescue Services Department who, in the course of their work, have occasions to confront snakes. Instructions are given on the capture of snakes straying into human habitations, and their relocation to wild areas. Instructions are also given on treatment of snakebite. Similar programmes are organized also for the concerned staff of industrial establishments with large campuses likely to be frequented by snakes.

7.4. The scope and reach of the education programmes can be considerably amplified if requisite funds are made available. A major requirement of funds will be for transport arrangements since all the schools are reluctant to spare their own funds for this purpose.

Also relevant will be such programmes focused on the general public, that is, other than students.

In years when outside funding was not available for the awareness programmes, funds used to be found from the Trust's own resources but considering the Trust's financial position this is not an adequate or enduring arrangement.

7.5. An audio-visual van for screening short films on snakes and other reptiles will be useful for extending the reach of the education programme to nearby districts. This will have to be acquired with outside funding.

7.6. During recent months special efforts have been made to bring together M.Sc. / B.Sc. students in Zoology of colleges and teachers in zoology in colleges near-about Chennai and teach them the basics of herpetology with special reference to Indian species.

8. Signages and displayboards

As part of the education of the public, a great deal of emphasis has been placed on display of proper signages. Apart from all the specimens being labeled prominently with their names in English, Latin and Tamil along with information on their distribution, habitat and habits, detailed display boards are placed prominently at strategic locations giving extensive information in a laity-friendly style on the various species of reptiles exhibited, their features and behaviour, erroneous beliefs about snakes, treatment of snakebite, role of snakes and other reptiles in the environment etc.

The existing signages were installed in 2008-09. The contents are adequate and need no significant revision.

9. Web site

9.1. Chennai Snake Park has recently launched a website (cspt.in).

10. Vermi-composting

A vermi-composting unit is functioning in the Park. The vermi-compost generated, surplus to the Park's requirement, is sold to the public at a nominal price.

11. Other facilities

Adequate arrangements have been made for disposal of solid waste and liquid waste, veterinary section, storage, feed supply, lawns and gardens, disposal of carcasses, etc.

12. Publications

One of the principal objectives of the Snake Park is the publication and sale of literature in English and Tamil on snakes and other reptiles in a style and with content that will particularly

appeal to the lay public. The Snake Park has a few such publications already to its credit which have been well-received by the public and by herpetologists in India and abroad . The publications are listed in Annexure-17. The scope and content of this venture will have to be amplified in the coming years and the sale to the public subsidized to the necessary extent if future publications prove to be costly.

The Trust publishes a half-yearly journal *Cobra*, which carries scientific, semi-scientific and popular papers on snakes and other reptiles and amphibians.

No other zoo in India has a comparable programme for publication of scientific and quasi-scientific literature on wildlife.

PART II

CHAPTER III

1. The mission of the zoo

- i) To maintain and display a captive collection of snakes and other reptiles as a means of eliciting public interest in them and prompting the public to empathize with them.
- ii) To promote knowledge among the public on reptiles and amphibians and dispel the widespread erroneous beliefs about snakes in particular and, to this end, conduct awareness programmes targeting students primarily and also teachers and bring out low-priced publications with technical, semi-technical and popular content
- iii) To aid and assist research on reptiles and amphibians including the conduct of surveys to assess their status and distribution;
- iv) To undertake captive breeding of endangered species of reptiles
- v) To canvass public support for the protection and conservation of reptiles and amphibians.

CHAPTER IV

1. Taxa coverage

In keeping with the policy of CZA, it is proposed that there should be no further addition of exotic species.

It is also proposed that all the exotic crocodiles numbering four belonging to two species (Nile crocodile & Siamese crocodile) should be gifted to other zoos willing to take them. All zoos having crocodiles have been addressed in the matter. The space released thereby will be utilized for building new enclosures for snakes in partial replacement of some of the existing snake enclosures since this will facilitate free flow of visitors.

Efforts should be made to procure from other zoos Indian species of reptiles not currently available in the Park.

For pursuing of action under the collection plan, existing specimens have been sexed to the maximum extent feasible. Details of sexes as in June 2013 are in Annexure 12.

The specific information on relevant species is furnished below:

Name of the species	Existing stock		Proposed acquisition		Proposed source
	M	F	M	F	
					Zoos within the country having surplus for exchange or gift
Monocellate cobra (<i>Naja kaouthia</i>)	-	-	2	2	”
Banded krait (<i>Bungarus fasciatus</i>)	-	-	2	2	”
Water monitor (<i>Varanus salvator</i>)	-	-	2	3	”
Yellow monitor (<i>Varanus flavescens</i>)	-	-	2	3	”
Ganges softshell turtle (<i>Aspiderates gangeticus</i>)	-	-	2	3	”
Riverine turtle (<i>Chitra indica</i>)	-	-	2	3	”
Terrapin species (<i>Kachuga spp</i>)	-	-	2	3	”

2. Layout

2.1 The layout in Annexure – 11 has the following colour code:

- a) black : existing structures where no changes is proposed.
- b) green : existing structures to be improved / modified.
- c) red : existing structures to be demolished wholly or in part.
- d) blue : proposed new construction.

2.2. The layout plan indicates visitor circulation, visitor amenities, site for disposal of carcasses, electricity supply lines, water distribution and list of buildings other than animal enclosures. Please see Annexure – 18.

CHAPTER V

1. Staff pattern

The existing staff pattern in the Snake Park is in para 3.1 and 3.2.

It is proposed to create a comprehensive data-base of literature relating to all aspects of Indian herpetological studies, namely, ecology, taxonomy and systematics, behaviour, distribution, reproductive biology and conservation for all Indian species of reptiles and amphibians. This will necessitate information to be accessed from scientific papers, notes, project reports, theses, books, bulletins, popular publications, internet and other authentic sources during a period of about 150 years. No such comprehensive data-base for reptiles or amphibians is available anywhere in India. The data will be computerized.

The duration of the project will be for one year to begin with and a competent researcher will be recruited for this purpose.

CHAPTER VI

1. Disaster management

1. Thirteen fire extinguishers have been provided at vulnerable locations. This is adequate. The staff are periodically given training in fire-fighting with the help of the Fire and Rescue Services Dept. of the Govt. of Tamil Nadu.
2. There is no possibility of flooding within the campus.
3. Suitable drainage arrangements are in place.
4. Police assistance is readily available on call in case there is any law-and-order situation.

CHAPTER VII

1. Contingency plans

- 1.1 Fire-prone structures have been totally avoided. There is no serious risk of fire. Fire extinguishers have been provided in adequate numbers at strategic locations. There are also fire stations of the Government nearby. Fire drills are conducted periodically.
- 1.2 Comprehensive insurance has been taken against fire and theft including theft of cash in transit.
- 1.3 The snake park has had no problem of escape of reptiles from the enclosures since these are well-designed and adequate safeguards are in position.
- 1.4 There is no dog menace. However, there are occasional problems with monkeys since there are free-ranging populations of macaques in the adjoining National Park some of whom intrude into the Snake Park. But the problem is not serious.
- 1.5 There are no possibilities for snakebite.
- 1.6 Antivenin is stocked in the Park as a measure of caution. There is also easy access to the facilities in the nearby hospitals in Chennai for treatment of snakebite.
- 1.7 In the matter of supply of feed, the present arrangements for purchase from the market or other agencies are adequate particularly since the requirements are small compared to other zoos.
- 1.8 Adequate safeguards exist to prevent visitors getting into or falling inside the enclosures. Stand-off barriers have been provided for all the cages/enclosures.

- 1.9 There have been a few (very few) instances of infighting among gharials and marsh crocodiles. Possibilities of this are minimized by pro-active measures such as segregation of sexes during the mating season and constant vigilance on intra-specific behaviour. For isolation of aggressive males during the breeding season enclosures.32 A, 33 A and 34 A are available.
- 1.10 There has been no instance of epidemics among the zoo animals.
- 1.11 There are frequent interruptions in power supply because of the problems faced by the Electricity Board's grid from time to time especially during summer months. To minimise disturbances on this account, a diesel generator and five inverters have been installed. One more diesel generator has been purchased and with this the full electricity requirement of the zoo can be met in times of non-availability of power supply from the Electricity Board grid for varying durations from time to time.
- 1.12 **Employees strike:** There has never been a strike in the history of the Snake Park commencing from 1972. We have a small staff of 20 workmen and they are not organized into any union. In fact, there was a union for a few years which was willingly dissolved by the workmen in 1996 since they had full confidence in the measures then being initiated by the Management in improving their conditions. The labour relations have been excellent since then.

In the most unlikely event of a strike, the zoo can easily be managed with such of the loyal staff as may be available and temporary recruits, especially since, unlike the other zoos with large numbers of mammals, the problems posed by reptiles in feeding and management are minimal.

CHAPTER VIII

1. Upgrading of skills

1.1. Periodical attempts are made to upgrade the skills of the zoo staff through interaction with other zoos and by deputing them to training classes etc. This, however, needs intensification. But the constraint in this is that, as far as reptiles are concerned, training facilities and expertise available elsewhere in India are very inadequate unlike in the case of other animal species. However, with the facilities available in the other zoos, the training programme in the Snake Park will be suitably augmented. If sufficient funds are available, deputation on training to foreign zoos could be considered.

CHAPTER IX

1. E-governance

- 1.1. The snake park has four computers with internet connection and one laptop.
- 1.2. Correspondence is by email wherever feasible.
- 1.3. All accounts have been brought under 'tally'.

CHAPTER X

1. Construction

- 1.1 The present provisions of enclosures for snakes are generally adequate. These are brick and mortar structures well-designed and with glass frontage. Most of these have been either modernized or constructed afresh in recent years. Provisions have been made inside each of the enclosures for water and localized heating so that the snakes can choose the preferred temperature gradient. In addition, the insides of the enclosures have been suitably enriched.
- 1.2 Enclosures 3 to 8 will be demolished to improve the free movement of visitors.
- 1.3 Enclosure 20 is one of the 7 enclosures now occupied by pythons. This will be demolished to provide a proper frontage for the proposed new block of snake enclosures (see below).

Accommodation for the snakes now occupying enclosures 3 to 8 and 20 will be found by constructing a new block of 7 enclosures in the space now occupied by enclosures 18,19 (Nile crocodiles) and 24, 25 & 26 (turtles / tortoises).

Till the Nile crocodiles are disposed of as proposed by us, they will be temporarily accommodated in enclosure 51 which is now not properly utilized so that the space now occupied by them is made available for the new block proposed above.

The turtles and tortoises now occupying enclosures 24, 25 and 26 will be shifted to enclosures 21, 22 now not fully utilized so that the space now occupied by them is made available for the new block proposed above.

This means that the space occupied by enclosure 28, 29, 30 & 31 occupied by the exotic crocodiles will not be necessary for housing snakes. Once the exotic crocodiles are disposed of, the space will be utilized for growing trees and shrubs.

- 1.4 The crocodile enclosures 34 & 35 need minor modification . the remaining crocodile enclosures (No.32 & 33) and the lizard enclosures No.21 to 23, 50 & 51 in the layout sketch need no major modification.
- 1.5 Gharial enclosure No.36 will be redesigned to increase the surface area and depth of water to the extent feasible and the sand bank extended.
- 1.6 The existing 6 ft. high chain-link fencing around the Snake Park provide adequate protection except in front. In the front portion, the existing compound wall with railing on top provide protection but the height may have to be raised.
- 1.7 Enclosure 49 which now houses the aquarium for the sea snakes and fresh water turtles and the museum will be re-designed to accommodate in addition, models of snakes especially those where live specimens are not available e.g. king cobra and flying snake.

2. Library

The stock in the library has to be built up on continuous basis

3. Veterinary facilities

Veterinary facilities such as instruments need augmentation.

4. Publications

The present publications of the Trust (see Annexure 17) provide an ample introduction to the public. New publications will be considered.

5. Signages and display boards

The existing signages were installed in 2008-2009. The content are adequate and need no significant revision. But the structural materials will need replacement in due course.

6. Awareness programmes

Awareness programmes for students, teachers and the public will be extended throughout Tamilnadu with financial assistance from external agencies.

PART III

CHAPTER XI

1. Fund requirements

- 1.1 The requirement of funds for implementation of the various proposals will be approximately as follows for the duration of ten years from 2013 to 2023 (This excludes the works already under execution).

Sl. No.	Items	1 st year (2013-14) ₹	2 nd year (2014-15) ₹	3 rd year (2015-16) ₹	4 th year (2016-17) ₹	5 th year (2017-18) ₹	6 th year (2018-19) ₹	7 th year (2019-20) ₹	8 th year (2020-21) ₹	9 th year (2021-22) ₹	10 th year (2022-23) ₹
1.	Construction of 7 snake cages (vide Ch.X para 1.3)	20,00,000									
2.	Redesigning and extension of gharial pond (vide Ch.X para 1.5)	10,00,000									
3.	Purchase of Library Books and Journals (vide Ch.X para 2)	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	
4.	Database on Indian herpetological literature (vide Ch.V para 1)	2,50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	
5.	Laboratory instruments (vide Ch.X para 3)	1,00,000			1,00,000			1,00,000			1,00,000
6.	Publication and sale (at subsidized rates wherever necessary) of literature on snakes and other reptiles. (vide Ch.X para 4)	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000
7.	Signages and information boards (vide Ch.X para 5)	1,00,000			1,00,000			1,00,000			1,00,000
8.	Awareness programme on reptiles and environment for school students(vide Ch.X para 6)	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000
9.	Awareness programme on reptiles and environment for general public (vide Ch.X para 6)	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000
10.	Purchase of audio-visual van and equipments for <i>ex situ</i> zoo education programmes (including expenditure on driver) for year 1 and driver only for years 2 & 3. (vide Ch.X para 6)	14,00,000	2,00,000	3,00,000	4,00,000	5,00,000	6,00,000	7,00,000	8,00,000	9,00,000	10,00,000
11.	E-governance (vide Ch.IX para 1)	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
12.	Redesigning of aquarium-cum-museum(vide Ch.X para 1.7)	10,00,000									
	Total	63,00,000	7,00,000	8,00,000	11,00,000	10,00,000	11,00,000	14,00,000	13,00,000	14,00,000	15,50,000

Chennai Snake Park Trust is not in a position to generate any substantial surpluses in any year for the above works after providing for revenue expenditure and unavoidable and urgently needed capital works and keeping aside minimum reserves for the future particularly considering the revision of pay for the staff that falls due once in five years on the revision of the long-term statutory agreement between the management and workmen. The Snake Park has also serious limitations in augmenting its resource-base from gate collections for quite some years in the future. Therefore, the Trust will be in a position to implement the proposals listed above to the full extent only with financial assistance from outside sources. The Trust accepts full responsibility to mobilise the requisite resources.

For and on behalf of the Board of Trustees

Date : 29.06.2013

(B. Vijayaraghavan)
Executive Chairman
Chennai Snake Park Trust.

Counter signed

Member Secretary
Central Zoo Authority

Annexure – 1

DEED OF TRUST

THIS INDENTURE OF DEED OF DECLARATION OF TRUST and appointment Trustees executed at Madras this 21st day June 1972 by Madras Snake Park represented by its Director, Romulus Whitaker and having its registered office at Guindy Deer Sanctuary, Madras-22 hereafter called the author of the trust, which expression wherever used in these presents shall subject to the context mean and include their and each of their heirs, executors, administrators, successors in office, Legal and personal representatives and assigns witnesseth;

WHEREAS the author of Trust has organized and is conducting the Project known as Madras Snake Park at present housed in an acre of land in the Guindy Park allotted on lease by the Government of Tamil Nadu. Whereas the said Park is gaining prominence day by day and whereas for the achievement and attainment of objects of the Park namely:

- (a) to present an exhibit of Indian and foreign reptiles for the public to see and learn about;
- (b) to extract venom for supply to medical and biochemical research laboratories;
- (c) to study snakes, lizards, crocodiles and turtles and publish material of interest of the fascinating but little known subjects of snakebite, the uses of venoms, and the conservation of reptiles;
- (d) to promote the appreciation in the minds of the public by lecture, pamphlets, film & educational media, the ecological importance of snake & reptiles in the world and to safeguard the ecological balance by preventing unwanton killing of species for the sake of skins & hide and horns etc. of the endangered species of wildlife as referred by the

Red Book of the Wild Life Fund, Swit venom for supply to medical and biochemical research laboratories;

- (e) to study snakes, lizards, crocodiles and turtles and publish material of interest of the fascinating but little known subjects of snakebite, the uses of venoms, and the conservation of reptiles;
- (f) to promote the appreciation in the minds of the public by lecture, pamphlets, film & educational media, the ecological importance of snake & reptiles in the world and to safeguard the ecological balance by preventing unwanton killing of species for the sake of skins & hide and horns etc. of the endangered species of wildlife as referred by the Red Book of the Wild Life Fund, Switzerland.

Adequate funds are required and for the expansion of the project, to bring in more species of Indian reptiles and for purposes of educating the public to be ecology-conscious and for the education and preservation of Wild Life, the need is felt to augment its resources.

WHEREAS the Wildlife Fund, India has authorized the author of the Trust to create a Trust for the management of the Park for securing funds for putting up pits and enclosures for housing reptiles, etc.

Whereas it is decided to create an Education Trust for the aforesaid purpose by these Presents.

Now this Indenture of Deed of Declaration to Trust witnesseth;

Know all men by these Present, that we the Madras Snake Park do and doth hereby declare and make it known to all whom it may concern that the Snake Park run under the name and style of Madras Snake Park together with Rs.2,500/- (Rupees two thousand five hundred only) in cash be and are Constituted Trust Properties to vest in Madras Snake Park Trust and they do pertain and form part of the endowment known as Madras Snake Park Trust and hereby dedicated to promote the educational activities of the said park and to do to promote the educational activities of the said park and to do all such deeds and things in furtherance of the said Project including raising of funds, acquiring of building for the Park and the like.

The author aforesaid further declare and direct that the said properties do hereby vest in a Board of Trustees which shall initially consist of six members; At the commencement the following are appointed Trustees:

- | | | |
|--------------------------------------|---|--------------------|
| 1. Thirumati Doris N. Chattopadhyaya | Editor, World crafts Council Magazine, Chateau Marine No.6 Marine Drive,Bombay.20 | Chairman |
| 2. Thiru A.N.Jagannatha Rao | Engineer, Ramana Nivas No.2.Second Cresent Road Gandhinagar, Adyar Madras.20 | Honorary Secretary |
| 3. Thiru. M.Krishnan | Naturalist & Wildlife Photographer, Perunkulam House, Edward Elliots Road, Madras.4 | Trustee |
| 4. Thiru. S.Meenkshisundaram | Advocate, 14, Guindy Road Adyar, Madras.20 | Trustee |
| 5. Prof. M.V.Rajendran | Prof. of Zoology, St. Xavier's College, Palayamkottai. | Trustee |

The provisions of the Indian Trust Act shall mutatis mutandis apply for this deed of trust.

Chairman with assistance and co-operation of the Honorary Secretary shall be the direct Management of the Trust and its properties, collection of rents and profits, maintenance of accounts, etc.

The Trustees shall meet often as may be necessary and shall pass the accounts, approve and pass the budget of expenses and sanction all expenses of a special nature. The annual statement of receipts and expenditure ending March every year and property statement shall be published at such meeting as may as fixed and arranged by the Trustees.

The Board of Trustees have power to allocate, alter and reshuffle the portfolios assigned to each as and when the stance so require. Likewise even at the time of filling in vacancy in the office of the Trusteeship it is open to the remaining Trustees to reshuffle and re-allocate the portfolio among themselves.

This Deed of Trust is irrevocable.

IN WITNESS whereof the Author of Trust has set his and seal the day and year just above written.

Signed and dated by the Author of Trust abovenamed.

Sd. _____
(ROMULUS WHITAKER)

/ TRUE COPY /

Annexure – 2

**LEASE DEED DATED 08.07.2002
(as amended by supplemental lease deeds dated 07.03.2005 and 29.04.2009)**

THIS DEED OF AGREEMENT made on this 8th day of July 2002 between the Chennai Snake Park Trust, Chennai (hereinafter called the “Lessee”) which expression shall, wherever the context so admits, include its successors in interest, executors, administrators, legal representatives and assigns OF THE ONE PART and The Governor of Tamil Nadu (hereinafter called the “Lessor”) which expression shall, wherever the context so admits, include his successor-in-office and assigns OF THE OTHER PART.

WHEREAS in pursuance of the Government Order No.48 Environment & Forest Department dated 28.2.2002, the Government of Tamil Nadu (hereinafter called the Government) have extended the lease of 0.4 ha. of land in the Guindy National park Reserved Forest, Chennai, more particularly described in the Schedule below, (hereinafter called “the said land”) in favour of the lessee to run a Snake Park for a period of twenty five years commencing on 16.11.2001 and ending with 15.11.2026, on the terms and conditions hereinafter contained, on an annual lease rent as fixed by the Forest Department from time to time for the said land.

AND WHEREAS the lessee has deposited Rs.500/- (Rupees Five Hundred only) as security for the due performance by him of the provisions hereinafter contained.

Now these presents witnesses and the parties hereto hereby agree as follows:-

1. The lease shall be for a period of twenty five years commencing on and from 16.11.2001. During the period of the lease, the lessee shall have the right to continue to run a Snake Park in the said land subject to the conditions hereinafter contained.

2. The lessee shall utilise the said land only for the purpose set out in the deed of the Chennai Snake Park Trust and the same shall be handed over back to the Tamil Nadu Forest Department when no longer required.
3. If at any time the lessor is satisfied that the lessee has ceased to serve its avowed objectives or has contravened any of the terms of the lease, the lease shall be resumed after giving three months notice on either side and without payment of any compensation. The authority to decide whether the lessee has ceased to serve its avowed objectives or has contravened any of the terms of the lease will be the Chief Conservator of Forests (Wildlife) Chennai. Any such decision shall be only after giving three months notice. An appeal against any decision of the authority shall be to the Government.
4. The annual lease rent as shall be Rs.120/per acre/per annum and shall be paid in advance, each year, to the Forest Department.

The fees for taking a telephone line through the Guindy National Park to the Snake Park shall be fixed by the Forest Department and shall be paid by the lessee in advance, each year, to the Forest Department.

5. The entrance fee may be decided by the Board of Trustees with the concurrence of the Forest Department representatives in the Trust viz., the Wildlife Warden.

6. There shall be five nominees to be specified by the lessor, from time to time, on the Board of Trustees in keeping with the Scheme approved by High Court of Madras in O.S.No.159 of 1986 & CMP No.6552/88. The Wildlife Warden, Chennai will be the nominee of the Forest Department.
7. The audited balance sheets should be sent to the Government and the Principal Chief Conservator of Forests, Tamil Nadu every year within six months of the close of the financial year.
8. The Wildlife Warden, Chennai, the Deputy Director of Tourism, Regional Dy. Director of Wildlife Preservation Southern Region, Ministry of E & F, Government of India, Chennai, The Zoological Survey of India, Southern Region, Government of India, Chennai and The Zoology Department, University of Madras, Chennai shall be co-opted as Trustees of the Chennai Snake Park Trust in pursuance of clause 5 above.
9. The lessee shall at all times comply with the provisions of the Wildlife (Protection) Act, 1972 and the Wildlife (Protection) Tamil Nadu Rules, 1975.
10. The lessee shall at all times comply with the instructions issued from time to time, by the Principal Chief Conservator of Forests, Tamil Nadu, Chief Wildlife Warden, Tamil Nadu or Wildlife Warden, Chennai towards the proper enforcement of the provisions of the Wildlife (Protection) Act, 1972 and Wildlife (Protection) Tamil Nadu Rules, 1975.

11. The liabilities of the Trust shall not at any time affect the Lessor's nominees on the Board of Trustees and they in their individual capacities or the lessor who nominated them, shall not be held liable for debts, pecuniary obligations and any other civil or criminal proceedings initiated against the Trust.
12. The lessee shall not use the said land for any purpose other than the purposes specified in the Trust Deed copy of which shall be part of this Lease Deed.
13. Buildings and structures as may be required for carrying out the activities of the Snake Park for management of the reptiles and imparting education may be put up by the Lessee without causing destruction of tree growth and subject to the condition that these are in accordance with the Master Plan approved by the CZA and subject to the conditions in clause 17 of the lease deed.
14. The lessee shall be responsible for any felling or removal of trees from the reserved forest within the leased area.
15. The lessee shall not assign or sublet or part with the possession of the said land or any part thereof, or any of his rights under this deed without the previous permission of the lessor in writing which permission may be refused by him without assigning any reason therefor.

16. The lessee shall at all times comply with the provisions of the Tamil Nadu Forest Act, 1882 (Tamil Nadu Act V of 1882) and all rules in force thereunder.
17. At the expiration of the lease period or soon after the termination of the lease period, the lessee shall deliver the said land to the Tamil Nadu Forest Department, together with all the crops and buildings erected thereon and all other improvements made thereof and all forest growth thereon in all respects in such state and conditions as shall be consistent with the due performance of the covenants herein contained and without any right to compensation in respect of such crops, buildings or structures, and improvements etc. The lessee shall take all tools, equipments and vehicles but leave the structures if any put up intact without claiming any compensation.
18. No standing tree growth or any forest produce shall be cut or removed either from the said land or from the adjoining reserved forest. A list of standing trees on the said land is appended, attested and acknowledged by the lessee.
19. All reserved trees on the said land enumerated and appended to this deed shall be preserved and protected by the lessee.
20. The entire area of the said land shall be protected by the lessee from damage by cattle or fire throughout the lease period.
21. All works in the said land shall be in furtherance of the aims and objectives of the Snake Park.

22. The lessee must be present in the said land for inspection when notice to this effect is given to him by the lessor.
23. The lessee shall maintain the demarcated limits of the said land throughout the period of the lease.
24. The lessee should maintain the snakes and other exhibits, both venomous and non-venomous, in fully protected and covered enclosures, ensuring safety to the public. For any accident that may happen due to negligence on the part of the lessee or his employees, the Trust shall be solely responsible.
25. The lessee shall be fully responsible for the acts of himself, his agents and persons employed by him and shall make good any damage in the said lands resulting from their act or omission by fire or otherwise. The amounts of such damage shall be fixed in each case by the Wildlife Warden, Chennai.
26. The lessee or his agents shall not cause any disturbance or damage to the wildlife in the surrounding area.
27. The lessee shall deposit Rs.500/- (Rupees Five Hundred only) as security deposit for the due fulfillment of all and every one of the conditions of the lease. For breach of any of the conditions by the lessee, the Wildlife Warden, Chennai shall be entitled to forfeit the

security deposit to the lessor, besides taking such penal action as deemed fit and the same shall be immediately made good by the lessee who shall not be allowed to continue enjoyment of the lease until such deposit has been brought upto the full amount originally deposited.

28. The Security Deposit or the balance thereof, after any deductions made under any of the above conditions, shall be refundable to the lessee one month after the expiry of the lease on production by the lessee of an order in writing by the Wildlife Warden releasing the lessee from all liabilities under this deed.
29. All amounts due from the lessee under the terms of this deed shall be paid by him within fifteen days from the date of demand of the same. If such dues are not paid within the said time, the same shall be recovered from the lessee under the provisions of the Tamil Nadu Revenue Recovery Act, 1864, (Tamil Nadu Act II of 1864) as if it were on arrear of land Revenue.
30. The lessee shall have no right to object to or claim compensation for any act done which in the opinion of the lessor is calculated for the betterment of the public visiting the Deer Park and the Children's Corner, and the flora and fauna surrounding the leased area.
31. An annual fee as fixed by the Forest Department from time to time for taking a telephone line through the Guindy National Park Reserved Forest shall be collected and the validity of each years permit will be for the year ending 31st March.

32. The lessee shall be responsible for maintaining cleanliness and removal of litter within the leased area and shall not cause any litter in the surrounding area.
33. This lease deed is executed subject to the Forest Department fixing the lease rent and the fees for taking the telephone lines to the leased premises through forest land and the lessee handing over the land belonging to it in S.No.2 and 5 in Kottivakkam village in Chingleput District to the Forest Department for compensatory afforestation and subject to the lessee paying the compensatory afforestation charges for the said land if found payable by the Forest Department.

THE SCHEDULE

District Taluk Village name and particulars of the area leased.

Madras Saidapet Guindy National Park Reserved Forest 0.4 hectares of land.

In witness whereof the lessee and K.S.S.V.P.Reddy, Wildlife Warden, Chennai, acting for and on behalf of and by the order and direction of the Governor of Tamil Nadu, have hereinto set their hands on the day, month and the year first above written.

Sd. _____
(B.Vijayaraghavan)
Chairman.
Lessee

Signed by the above
named in the presence of:-

1. First witness

Name : Dr.V.Kalaiarasan
Address : CHENNAI SNAKE PARK
CHENNAI – 600 022.
Occupation : DIRECTOR, CHENNAI SNAKE PARK.

2. Second witness

Name :
Address :
Occupation :

Sd. _____
(K.S.S.V.P.Reddy)
Wildlife Warden
Lessor

(for and on behalf of and by the order and direction
of the Governor of Tamil Nadu)

Signed by the above
named in the presence of :-

1. First witness

Name : Mr.M.SABARULLA
Address : O/o.WILDLIFE WARDEN,
CHENNAI – 600 006.
Occupation : SUPERINTENDENT.

2. Second witness

Name : Mr.R.PERIYASAMY
Address : O/o.WILDLIFE WARDEN,
CHENNAI – 600 006.
Occupation : JR. DROUGHTING OFFICER.

/TRUE COPY/

Note: Clause 33 has to be read with the following in the supplemental lease deed dt. 7.3.2005:-

- (i) The lease rent for the land has been fixed in G.O. 221 E & F dated 18.11.2002 at Rs. One hundred and twenty per acre for the renewed period of lease.
- (ii) The fees for taking telephone lines through the forest land will be fixed by the Forest Department from time to time.
- (iii) The lessee has on 19.11.2003 transferred the land in S.No.279/2B and 279/5B measuring 0.665 hectares in Kottivakkam village to the Revenue Department and the Revenue Department has, on the same day, transferred the said piece of land to the Forest Department.
- (iv) As instructed by Government in letter No.33347/FR X/2002-13 dt. 26.5.2004 of the Environment and Forest Department, the lessee has on 17.6.2004 relinquished the land owned by the lessee in S.No.279/2A and 279/5A measuring 0.36 hectares in Kottivakkam village in favour of the Revenue Department for transfer to the Forest Department.
- (v) The compensatory afforestation charges levied on the lessee has been waived in G.O. 221 E & F dt. 18.11.2002.

Annexure – 3

BOARD OF TRUSTEES

As in Mar. 2013

1. Shri.B.Vijayaraghavan, IAS (Retd.), Executive Chairman
2. Dr Gowri Mallapur
3. Dr.M.G. Jayathangaraj
4. Dr.S. Paulraj, IFS, (Retd.)
5. Shri.V.S.Raghavan.
6. Shri.S.Subbarayalu Naidu, IFS (Retd.)
7. Dr.T.Sundaramoorthy.
8. Shri.K.Viswanathan, IFS (Retd.)
9. Wildlife Warden, Chennai.
(Smt. K. Geethanjali, IFS)
10. Jt. Director, Tourism Dept.
(Dr. S. Bakthavatchalam)
11. Officer-in-Charge,
Zoological Survey of India,
Southern Regional Station,
Chennai – 600 028.
(Dr. K. Ilango)
12. Head, Dept. of Zoology,
Madras University,
(Dr.M.Arumugam)
13. Regional Deputy Director,
Wildlife Crime Control Bureau (SR),
Govt. of India, Chennai.
(Mr. S. Narayanan, IFS)

Annexure – 4

AIMS AND OBJECTIVES

- i) To maintain and display a captive collection of snakes and other reptiles as a means of eliciting public interest in them and prompting the public to empathize with them.
- ii) To promote knowledge among the public on reptiles and amphibians and dispel the widespread erroneous beliefs about snakes in particular and, to this end, conduct awareness programmes targeting school children primarily and bring out low-priced publications with technical, semi-technical and popular contents on reptiles and amphibians.
- iii) To aid and assist research on reptiles and amphibians including the conduct of surveys to assess their status and distribution.
- iv) To undertake captive breeding of endangered species of snakes and other reptiles.
- v) To canvass public support for the protection and conservation of reptiles and amphibians.

Annexure – 5

Sale of books and other publications during the years 2010 to 2013

	2010-2011	2011-2012	2012-2013
Common Indian Snakes – Romulus Whitaker	150	125	68
Snakes Around Us – Zai and Romulus Whitaker	2	--	--
The World of Turtles and Crocodiles – Zai and Romulus Whitaker & Indraneil Das	140	107	46
Nammudan Vazhum Pampukal (Tamil) – Zai and Romulus Whitaker	67	53	41
Lizards – Indraneil Das & Romulus Whitaker	106	80	45
Snakes of India: The Field Guide – Romulus Whitaker & Ashok Captain	--	--	--
Snakes and Other Reptiles – B.Vijayaraghavan	373	203	68
Pampukalum Matra Urvanangalum (Tamil) – B.Vijayaraghavan	673	125	51
Snake Studies: India – B.Vijayaraghavan	127	71	62
Snakes In The Bible – B.Vijayaraghavan	76	47	51
Name-dropping – In Latin (An Enquiry into the Scientific Names of Indian Snakes) – B.Vijayaraghavan	45	42	34
Snakebite: A Book for India – B.Vijayaraghavan	297	236	118
400 Questions Answered about Snakes – B.Vijayaraghavan	1032	193	86
The Illustrated Book of South Indian Snakes –B.Vijayaraghavan & S.R. Ganesh	--	287	248
If You See a snake...A Practical guide for the perplexed – B.Vijayaraghavan	--	--	26
Picture Cards	1180	5480	280
Posters	405	184	102
Stickers	412	222	174

Annexure – 6

IMAGES DISPLAYED IN THE INTERPRETATION CENTRE

Common Indian snakes

1. Common worm snake (*Ramphotyphlops braminus*)
2. Common sand boa (*Gongylophis conicus*)
3. Red sand boa (*Eryx johnii*)
4. Indian python (*Python molurus*)
5. Bronzeback tree snake (*Dendrelaphis tristis*)
6. Rat snake (*Ptyas mucosa*)
7. Banded kukri snake (*Oligodon arnensis*)
8. Russell's kukri snake (*Oligodon taeniolatus*)
9. Checkered keelback (*Xenochrophis piscator*)
10. Striped keelback (*Amphiesma stolatum*)
11. Common cat snake (*Boiga trigonata*)
12. Green vine snake (*Ahaetulla nasuta*)
13. Common krait (*Bungarus caeruleus*)
14. Spectacled cobra (*Naja naja*)
15. Russell's viper (*Daboia russelii*)
16. Saw-scaled viper (*Echis carinatus*)

Uncommon Indian snakes

1. Dumèril's black headed snake (*Sibynophis subpunctatus*)
2. Stout sand snake (*Psammophis longifrons*)
3. Copper-headed trinket snake (*Coelognathus radiata*)
4. Yellow-spotted wolf snake (*Lycodon flavomaculatus*)
5. Glossy marsh snake (*Gerarda prevostiana*)
6. Slender racer snake (*Coluber gracilis*)
7. Indian smooth snake (*Coronella brachyura*)
8. Beddome's cat snake (*Boiga beddomei*)
9. Banded krait (*Bungarus fasciatus*)

10. File snake (*Acrochordus granulatus*)
11. Brown vine snake (*Ahaetulla pulverulenta*)
12. Leith's sand snake (*Psammophis leithi*)
13. Wynad shield-tail (*Melanophidium wynaudente*)
14. Perrotet's shield-tail (*Plectrurus perroteti*)
15. Ashambu shield-tail (*Uropeltis liura*)
16. Elliot's shield-tail (*Uropeltis ellioti*)
17. Madurai shield-tail (*Uropeltis arcticeps madurensis*)
18. Cuvier's shield-tail (*Uropeltis ceylanicus*)
19. Red-bellied shield-tail (*Rhinophis sanguineus*)
20. Beaked worm snake (*Grypotyphlops acutus*)
21. Whitaker's boa (*Eryx whitakeri*)
22. Günther's vine snake (*Ahaetulla dispar*)
23. Bronze-headed vine snake (*Ahaetulla perroteti*)
24. Western kukri snake (*Oligodon affinis*)
25. Travancore kukri snake (*Oligodon travancoricus*)
26. Black-spotted kukri snake (*Oligodon venustus*)
27. Common bridal snake (*Dryocalamus nympha*)
28. Olive forest snake (*Rhabdops olivaceus*)
29. Travancore wolf snake (*Lycodon travancoricus*)
30. Dog-faced water snake (*Cerberys rynchops*)
31. Dussumier's smooth water snake (*Enhydris dussumieri*)
32. Montane trinket snake (*Coelognathus helena monticollaris*)
33. Banded racer (*Argyrogena fasciolata*)
34. Western Ghats bronzeback (*Dendrelaphis chairecacos*)
35. Large-eyed bronzeback (*Dendrelaphis grandoculis*)
36. Beddome's keelback (*Amphiesma beddomei*)
37. Hill keelback (*Amphiesma monticola*)
38. Green keelback (*Macropisthodon plumbicolor*)
39. Ceylon cat snake (*Boiga ceylonensis*)
40. Collared cat snake (*Boiga nuchalis*)

41. Forsten's cat snake (*Boiga forsteni*)
42. Slender coral snake (*Calliophis melanurus*)
43. Striped coral snake (*Calliophis nigrescens*)
44. King cobra (*Ophiophagus hannah*)
45. Hook-nosed sea snake (*Enhydrina schistosa*)
46. Black and yellow sea snake (*Pelamis platura*)
47. Short sea snake (*Lapemis curtus*)
48. Annulated sea snake (*Hydrophis cynaocinctus*)
49. Banded sea snake (*Hydrophis fasciatus*)
50. Cochin-banded sea snake (*Hydrophis ornatus*)
51. Hump-nosed pit viper (*Hypnale hypnale*)
52. Bamboo pit viper (*Trimeresurus gramineus*)
53. Large-scaled pit viper (*Trimeresurus macrolepis*)
54. Malabar pit viper (*Trimeresurus malabaricus*)
55. Horse-shoe pit viper (*Trimeresurus strigatus*)

Exotic snakes

1. Spitting cobra (*Naja* spp.)
2. Black mamba (*Dendroaspis polylepis*)
3. Bushmaster (*Lachesis* spp.)
4. Anaconda (*Eunectes* spp.)
5. Egg-eater (*Dasypeltis* spp.)
6. Inland Taipan (*Oxyuranus microlepidotus*)
7. Boomslang (*Dispholidus typus*)
8. Sidewinder (*Bitis peringueyi*)
9. Rattle snake (*Crotalus* spp.)
10. Problem snake species – Brown tree snake (*Boiga irregularis*) & Okinawa Habu (*Trimeresurus flavoviridis*)
11. Convergent evolution – Emerald tree boa (*Corallus caninus*) & Green tree python (*Morelia viridis*)

12. Snake mimicry – Eastern coral snake (*Micrurus fulvis*) & Scarlet king snake (*Lampropeltis triangulum elapsoides*)

Crocodylians

1. Mugger or marsh crocodile (*Crocodylus palustris*)
2. Saltwater crocodile (*Crocodylus porosus*)
3. Gharial (*Gavialis gangeticus*)

Annexure – 7

Month-wise number of visitors for three years (2010-2013)

Month	2010-11			2011-12			2012-13		
	Adult	Child	Total	Adult	Child	Total	Adult	Child	Total
April	51,945	21,667	73,612	49,982	19,654	69,636	45,747	16,430	62,177
May	82,060	37,662	119,722	75,263	33,399	108,662	79,465	33,524	112,989
June	36,526	8,574	45,100	45,303	13,054	58,357	35,308	7,745	43,053
July	37,687	9,227	46,914	41,284	11,927	53,211	33,439	7,618	41,057
August	32,997	8,813	41,810	36,470	10,411	46,881	39,337	10,810	50,147
Sept	38,763	10,650	49,413	33,160	8,291	41,451	36,490	9,561	46,051
Oct	49,003	13,679	62,682	45,027	12,398	57,425	38,869	9,778	48,647
Nov	35,420	7,748	43,168	32,484	6,565	39,049	31,207	6,668	37,875
Dec	50,805	13,693	64,498	51,327	12,362	63,689	53,090	13,638	66,728
Jan	61,831	19,372	81,203	55,915	17,245	73,160	49,507	12,987	62,494
Feb	38,064	19,756	57,820	38,898	18,028	56,926	30,954	11,831	42,785
March	34,114	17,035	51,149	37,172	17,828	55,000	36,908	16,140	53,048
Total	549,215	187,876	737,091	542,285	181,162	723,447	510,321	156,730	667,051

Annexure – 8

Income and expenditure

Financial year	Income	Expenditure
1995-96	15,05,202	15,02,450
1996-97	13,92,447	12,98,294
1997-98	17,13,315	15,80,487
1998-99	24,29,337	18,20,446
1999-2000	23,58,197	19,64,987
2000-01	24,54,491	21,07,992
2001-02	21,25,326	18,61,295
2002-03	29,69,097	27,60,734
2003-04	31,73,249	28,06,045
2004-05	29,93,983	33,75,576
2005-06	34,29,098	28,52,391
2006-07	48,34,417	40,04,001
2007-08	43,49,792	28,95,256
2008-09	45,76,104	46,74,581
2009-10	46,99,597	49,31,791
2010-11	75,71,030	57,85,091
2011-12	72,35,671	59,11,018
2012-13	83,33,887	63,33,970

Annexure – 9
Trees in the Chennai Snake Park

Species	Numbers
1. <i>Anona squamosa</i>	3
2. <i>Polyalthia longifolia</i>	38
3. <i>Atlantia monophylla</i>	4
4. <i>Azadirachata indica</i>	3
5. <i>Zizyphus mauritiana</i>	1
6. <i>Zizyphus xylopyrus</i>	5
7. <i>Caesalpinia coriaria</i>	10
8. <i>Delonix regia</i>	2
9. <i>Cassia siamea</i>	4
10. <i>Cassia rouxburghii</i>	45
11. <i>Tamarindus indica</i>	1
12. <i>Prosopis juliflora</i>	1
13. <i>Acacia planifrons</i>	12
14. <i>Acacia leucophloea</i>	1
15. <i>Albizia lebbbeck</i>	1
16. <i>Morinda pubescens</i>	2
17. <i>Santalum album</i>	3
18. <i>Borassus flabellifer</i>	2
19. <i>Wrightia tinctoria</i>	1
20. <i>Bambusa arundinacea</i>	200
21. <i>Dendrocalamus strictus</i>	20
22. <i>Samanea saman</i>	6
23. <i>Streblus asper</i>	1
24. <i>Pamburus missionis</i>	4
25. <i>Mangifera indica</i>	1
26. <i>Aegle marmelos</i>	1
27. <i>Mimusops elengi</i>	1
28. <i>Millingtonia hortensis</i>	3
29. <i>Peltophorum pterocarpum</i>	3
30. <i>Erythrina indica</i>	3
31. <i>Adenanthrea pavonina</i>	2
32. <i>Thespesia populnea</i>	1
33. <i>Kigelia pinnata</i>	1
34. <i>Guazama ulmirolia</i>	2
35. <i>Madhuca longifolia</i>	1
36. <i>Couroupita guianensis</i>	1

Annexure – 10

CHECKLIST OF FREE-RANGING FAUNA IN THE PARK

Mammals

- 1 Bonnet macaque (*Macaca radiata*)
- 2 Three-striped palm squirrel (*Funambulus palmarum*)

Birds

- 1) Black winged kite (*Elanus caeruleus*)
- 2) Pariah kite (*Milvus migrans*)
- 3) Brahminy kite (*Haliastur indus*)
- 4) Shikra (*Accipiter badius*)
- 5) Common mynah (*Acridotheris tristis*)
- 6) Spotted dove (*Streptopelia chinensis*)
- 7) Rose ringed parakeet (*Psittacula krameri*)
- 8) Common hawk cuckoo (*Cuculus varius*)
- 9) Koel (*Eudynamys scolopacea*)
- 10) Coucal (*Centropus sinensis*)
- 11) Spotted owlet (*Athene brama*)
- 12) White breasted kingfisher (*Halcyon smyrnensis*)
- 13) Hoopoe (*Upupa epops*)
- 14) Coppersmith (*Megalaima haemacephala*)
- 15) Lesser golden backed woodpecker (*Dinopium benghalense*)
- 16) Golden oriole (*Oriolus oriolus*)
- 17) Black drongo (*Dicrurus adsimilis*)

- 18) Indian tree pie (*Dendrocitta vagabunda*)
- 19) Common iora (*Aegithina tiphia*)
- 20) Red vented bulul (*Pycnonotus cafer*)
- 21) White headed babbler (*Turdoides affinis*)
- 22) Paradise flycatcher (*Terpsiphone paradisi*)
- 23) Tailor bird (*Orthotomus sutorius*)

Amphibians

- 1) Cricket frog (*Fejeverya limnocharis*)
- 2) Dwarf toad (*Duttaphrynus scaber*)
- 3) Common toad (*Duttaphrynus melanostictus*)
- 4) Variegated small-mouthed frog (*Ramanella variegata*)
- 5) Painted frog (*Kaloula taprobanica*)
- 6) Tree frog (*Polypedates maculatus*)

Reptiles

- 1) Garden lizard (*Calotes versicolor*)
- 2) House gecko (*Hemidactylus frenatus*)
- 3) Brook's gecko (*Hemidactylus brookii*)
- 4) Bark gecko (*Hemidactylus leschenaultii*)
- 5) Keeled skink (*Eutropis carinatus*)
- 6) Bronze skink (*Eutropis macularius*)
- 7) Snake skink (*Lygosoma punctata*)
- 8) White-spotted skink (*Lygosom albopunctata*)
- 9) Brahminy worm snake (*Ramphotyphlops braminus*)

- 10) Bronzeback tree snake (*Dendrelaphis tristis*)
- 11) Vine snake (*Ahaetulla nasuta*)
- 12) Trinket snake (*Coelognathus helena helena*)
- 13) Bridal snake (*Dryocalamus nympa*)
- 14) Russell's kukri snake (*Oligodon taeniolatus*)
- 15) Barred wolf snake (*Lycodon striatus*)
- 16) Slender coral snake (*Calliophis melanurus*)

Butterflies

- 1) Crimson rose (*Pachiliopta hector*)
- 2) Common rose (*Pachiliopta aristolochiae*)
- 3) Common jezebel (*Delias eucharis*)
- 4) Yellow orange tip (*Ixias pyrene*)
- 5) Indian cabbage white (*Artogeia canidia*)
- 6) Plain tiger (*Danaus chrysippus*)
- 7) Blue pansy (*Junonia orithya*)
- 8) Common five-ring (*Ypthima baldus*)
- 9) Common pierrot (*Castalius rosimon*)
- 10) Tawny coster (*Acraea terpsicore*)
- 11) Lime blue (*Chilades laius*)

Other Species

1. Bugs (*Acanthapis siva*) (*Velitra sinensis walker*)
2. Scorpions (*Uropygi* sp. and *Scorpiones* sp.)

Annexure – 11

LAYOUT

PROPOSED COLLECTION PLAN (ANIMALS)

Schedule	Sl. No.	Species	Scientific name	Present Species					Proposed collection (Animals to be acquired)					Animals to be given away					Remarks	
				M	F	US	C	Total	M	F	US	C	Total	M	F	US	C	Total		
				Sch-II	16	Dog-faced water snake	<i>Cerberus rynchops</i>	3	2	0		5								
Sch-IV	17	Common krait	<i>Bungarus caeruleus</i>	3	3	0		6												
Sch-IV	18	Banded krait	<i>Bungarus fasciatus</i>	0	0	0		0	2	2			4							To be acquired under exchange programme
Sch-II	19	Spectacled cobra	<i>Naja naja</i>	6	8	0		14												
Sch-II	20	Monocellate cobra	<i>Naja kaouthia</i>	0	0	0		0	2	2			4							To be acquired under exchange programme
Sch-IV	21	Hook-nosed sea snake	<i>Enhydrina schistosa</i>	1	1	0		2												
Sch-IV	22	Yellow sea snake	<i>Hydrophis spiralis</i>	0	1	0		1	1	1			2							To be acquired under exchange programme
Sch-IV	23	Annulated sea snake	<i>Hydrophis cyanocinctus</i>	1	1	0		2												
Sch-II	24	Russell's viper	<i>Daboia russelii</i>	3	3	0		6												
Sch-IV	25	Saw-scaled viper	<i>Echis carinatus</i>	4	5	0		9												
Sch-I	26	Marsh crocodile	<i>Crocodylus palustris</i>	13	11	9		33						5	5			10		Under exchange programme
Sch-I	27	Saltwater crocodile	<i>Crocodylus porosus</i>	1	2	0		3												
Sch-I	28	Gharial	<i>Gavialis gangeticus</i>	3	3	0		6												
Exotic	29	Nile crocodile	<i>Crocodylus niloticus</i>	0	0	2		2								2		2		Under exchange programme
Exotic	30	Siamese crocodile	<i>Crocodylus siamensis</i>	0	0	2		2								2		2		Under exchange programme

PROPOSED COLLECTION PLAN (ANIMALS)

Schedule	Sl. No.	Species	Scientific name	Present Species					Proposed collection (Animals to be acquired)					Animals to be given away					Remarks		
				M	F	US	C	Total	M	F	US	C	Total	M	F	US	C	Total			
				Sch-I	31	Indian black turtle	<i>Melanochelys trijuga</i>	9	13	11		33									
Sch-I	32	Ganges softshell turtle	<i>Aspiderates gangeticus</i>	0	0	0		0	2	3				5							To be acquired under exchange programme
Sch-I	33	Riverine turtle	<i>Chitra indica</i>	0	0	0		0	2	3				5							To be acquired under exchange programme
Sch-I	34	Terrapin species	<i>Kachuga spp.</i>	0	0	0		0	2	3				5							To be acquired under exchange programme
Sch-I	35	Indian flapshell turtle	<i>Lissemys punctata</i>	3	3	1		7													
Exotic	36	Slider turtle	<i>Trachyemys scripta</i>	1	1	0		2													
Sch-IV	37	Star tortoise	<i>Geochelone elegans</i>	4	4	2		10													
Sch-IV	38	Spotted rock gecko	<i>Hemidactylus graniticolus</i>	2	2	1		5													
Sch-IV	39	Rock lizard	<i>Psammophilus blanfordanus</i>	2	3	1		6													
Sch-IV	40	South Asian chamaeleon	<i>Chamaeleo zeylanicus</i>	3	2	0		5													
Sch-II	41	Bengal monitor	<i>Varanus bengalensis</i>	1	2	0		3													
Sch-I	42	Water monitor	<i>Varanus salvator</i>	0	0	0		0	2	3				5							To be acquired under exchange programme
Sch-I	43	Yellow monitor	<i>Varanus flavescens</i>	0	0	0		0	2	3				5							To be acquired under exchange programme

Annexure – 13

REPTILES LISTED IN SCHEDULES I AND II OF THE WILDLIFE (PROTECTION) ACT, 1972 AVAILABLE IN THE PARK

Schedule –I

1. Indian rock python	<i>Python molurus</i>
2. Reticulated python	<i>Python reticulatus</i>
3. Marsh crocodile	<i>Crocodylus palustris</i>
4. Gharial	<i>Gavialis gangeticus</i>
5. Saltwater crocodile	<i>Crocodylus porosus</i>
6. Indian flapshell turtle	<i>Lissemys punctata</i>

Schedule – II Part-II

1. Bengal monitor	<i>Varanus bengalensis</i>
2. South Asian chamaeleon	<i>Chamaeleo zeylanicus</i>
3. Checkered keelback	<i>Xenochrophis piscator</i>
4. Indian rat snake	<i>Ptyas mucosa</i>
5. Dog-faced water snake	<i>Cerebrus rynchops</i>
6. Spectacled cobra	<i>Naja naja</i>
7. Olive keelback	<i>Atretium schistosum</i>
8. Russell's viper	<i>Daboia russelii</i>

Annexure – 14

REPTILES CLASSIFIED AS CRITICALLY ENDANGERED BY THE CZA UNDER RECOGNITION OF ZOO (AMENDMENT) RULES, 2001 AND AVAILABLE IN THE PARK

1. Indian rock python	<i>Python molurus</i>
2. Reticulated python	<i>Python reticulatus</i>
3. Common sand boa	<i>Gongylophis conicus</i>
4. Red sand boa	<i>Eryx johnii</i>
5. Common trinket snake	<i>Coelognathus helena helena</i>
6. Indian rat snake	<i>Ptyas mucosa</i>
7. Common kukri snake	<i>Oligodon arnensis</i>
8. Common bronzeback tree snake	<i>Dendrelaphis tristis</i>
9. Checkered keelback	<i>Xenochrophis piscator</i>
10. Striped keelback	<i>Amphiesma stolatum</i>
11. Olive keelback	<i>Atretium schistosum</i>
12. Common cat snake	<i>Boiga trigonata</i>
13. Common vine snake	<i>Ahaetulla nasuta</i>
14. Common krait	<i>Bungarus caeruleus</i>
15. Spectacled cobra	<i>Naja naja</i>
16. Annulated sea snake	<i>Hydrophis cyanocinctus</i>
17. Russell's viper	<i>Daboia russelii</i>
18. Saw-scaled viper	<i>Echis carinatus</i>
19. Saltwater crocodile	<i>Crocodylus porosus</i>
20. Indian black turtle	<i>Melanochelys trijuga</i>
21. Indian flapshell turtle	<i>Lissemys punctata</i>
22. South Asian chamaeleon	<i>Chamaeleo zeylanicus</i>
23. Bengal monitor	<i>Varanus bengalensis</i>

Annexure – 15

LIST OF RESEARCH PAPERS BY SCIENTISTS OF CHENNAI SNAKE PARK TRUST OR BASED ON WORK IN THE CHENNAI SNAKE PARK

1. **Kalaiarasan. V. 1990.** Captive Breeding of the Reticulated python (*Python reticulatus*), *Cobra*1:9-11.
2. **Aengals. R. 1990.** On the nesting behaviour of the Indian chamaeleon (*Chamaeleo zeylanicus*). *Cobra* 1: 12-13.
3. **Meganathan,S. 1990.** Haematological studies in Reptiles. M.Phil dissertation submitted to Bharathidasan University, Tiruchirapalli.
4. **Pitchaiah, C.1991.** Colour change due to external stimuli in Indian chamaeleon *Chamaeleo zeylanicus*. M.Phil dissertation submitted Madras University, Chennai.
5. **Jaganathan. P.D. 1991.** Common Ailments in Reptiles. *Cobra*.3: 5-6.
6. **Kalaiarasan. V. and B. Rathinasabapathy. 1992.** Breeding of the Indian python (*Python molurus*), *Cobra*.3:10-12.
7. **Kalaiarasan. V, B.Rathinasabapthy, P.Tamilarasan, R.Aengals and A.J.Ganesh Prasanna.1991.** Herpetological Survey of Narmada Valley, Madhyapradesh. Part I.Reptiles of Narmada Valley. *Cobra*. 5: 8-12.
8. **Pillai,R.S.,M.S.Ravichandran and P.Tamilarasan.1991.** Herpetological Survey of Narmada Valley, Madhyapradesh. Part II.Amphibia of Narmada Valley. *Cobra*. 5:13-14.
9. **Kalaiarasan. V. 1992.** Cannibalism in Pythons, *Cobra*.8:11-12.
10. **Kalaiarasan. V, R.Kanakasabai and B.Rathinasabapathy, 1992.** Record of the Riverine Turtle *Trionyx leithi* from Thanjavur District, Tamil Nadu, *J.Bom.Nat. His. Soci.* 89(2), pp.258-259.
11. **Rathinasabapathy. B and V.Kalaiarasan. 1993.** Notes on the Growth rate of Indian Python (*Python molurus*) and Regal Python (*Python reticulatus*). *Zoos' Print*, Vol.VIII (2) pp 11-12.
12. **Rathinasabapathy, B., R. Rajarathinam and V. Kalaiarasan, 1993.** Observations on the breeding behaviour of the Madras Pond Tortoise (*Melanochelys trijuga*) *Zoos' Print* Vol.VIII (6) pp 6-7.
13. **Tamilarasan. P. 1994.** Studies on courtship and nesting behaviour of starred tortoise (*Geochelone elegans*) in captivity at Madras Snake Park Trust. *Cobra*.15:10-12.

14. **Kalaiarasan, V and R. Kanakasabai. 1994.** Seasonal availability of sea snakes. *Cobra*. 16:18&19.
15. **Rathinasabapathy, B and V.Kalaiarasan. 1994.** Incidence of cannibalism in green vine snake, *Ahaetulla nasutus*. *Cobra*.16:22.
16. **Kannan, P. 1994.** Herpetofaunal assemblage in Mayiladuthurai area. M.Sc. dissertation submitted to Bharathidasan University, Tiruchirapalli.
17. **Aengals. R and R.Rajarathinam. 1994.** Growth rate of Indian chamaeleon (*Chamaeleo zeylanicus*) in captivity. *Cobra* .17:1-6.
18. **Kannan, P. C.Sankaravadivelu and V.Kalaiarasan. 1994.** Herpetofaunal assemblage in Mayiladuthurai area. *Cobra*. 18:1-15.
19. **V.Kalaiarasan and R.Aengals. 1995.** An assessment of Herpetofauna in a newly created ecosystem of the Nagarjuna Fertilizers and Chemical Limited, Kakinada, Andhra Pradesh.*Cobra*.19:10-16.
20. **Krishnamurthy. V. 1995.** An account of the treatment of a Regal python (*Python reticulatus*) at the Madras Snake Park. *Cobra*.19: 17-20.
21. **Aengals.R.1995.** Reptilian fauna in the plantation of Valparai, Western Ghats. *Cobra*.19:21-23.
22. **Rajarathinam. R and V. Kalaiarasan 1995.** Records of cannibalism in captive reptiles, *Cobra* .22:23-27.
23. **Aengals. R and V.Kalaiarasan 1995.** Notes on abnormal feeding behaviour of head started Indian python (*Python molurus molurus*) *Cobra* .22 :24.
24. **Rathinasabapathy. B and V. Kalaiarasan, 1995.** Observation on sloughing in Reticulated Python (*Python reticulates*). *Animal keeper's forum* Vo.2216 : 223-225.
25. **Kalaiarasan, V.1996.** The community structure of reptiles in the scrub jungle forests in Chengai-MGR and Madras Districts. Ph.D thesis submitted to Bharathidasan University, Tiruchirapalli.
26. **Madan Mohan, M. 1996.** A survey of Ecto & Endo parasitic worm burden in captive and wild snakes at Madras Snake Park. M.Sc. Dissertation submitted to Bharathidasan University, Tiruchirapalli.
27. **Velmanickavalli, A. 1997.** Studies on certain epidemiological parameters of ecto and endoparasites of captively maintained snakes. M.V.Sc. dissertation submitted to Tamil Nadu Veterinary and animal Sciences University, Chennai.

28. **Aengals. R and R.Rajarathinam. 1996.** Breeding notes on checkered keelback water snake in Madras Snake Park. *Cobra.23*: 38.
29. **Aengals. R.1996.**Captive breeding of reptiles at the Madras Snake Park.*Cobra.24*:13-15.
30. **Madan Mohan, M., S.Swetharanyam and A.V.Gopalakrishnan. 1996.** A survey of Ecto & Endo parasitic worm burden in captive and wild snakes at Madras Snake Park. *Cobra .25* :5-10.
31. **Rajarathinam. R and V.Kalaiarasan, 1996.** Housing of Snakes, *Cobra.26* :26-32.
32. **Kalaiarasan. V and R. Rajarathinam, 1997.** Of garden lizards and jungle crows, *Cobra.27* :37.
33. **Kalaiarasan. V and R. Rajarathinam, 1997.** Food habits of captive snakes, *Cobra.29*: 33-36.
34. **Krishnamurthy. V and A.V.Gopalakrishnan. 1998.** Health care of Reptiles in captive condition. *Cobra* (33), pp. 49-54.
35. **R.Aengals.1999.** Studies on the ecology of common arboreal and land snakes in scrub jungle forests of Chengalpattu-MGR District, Tamil Nadu. Ph.D thesis submitted to Madras University,Chennai.
36. **Kalaiarasan,V.1999.** The Gaherty Reptile and Amphibian conservation centre at Jersey Zoo, *Cobra* (35 & 36) :1-12.
37. **R.Aengals.1999.** Studies on the ecology of common arboreal and land snakes in scrub jungle forests of Chengalpattu-MGR District, Tamil Nadu. *Cobra. 35&36*: 18-24.
38. **Kalaiarasan, V.1999.** The community structure of reptiles in the scrub jungle forests in Chengai-MGR and Madras Districts. *Cobra.35&36*:29-30.
39. **Krishnamurthy. V and A.V.Gopalakrishnan. 1999.** A case of bowel impaction in a captive Aldabra tortoise. *Cobra .37*:1-4.
40. **Kalaiarasan, V and R.J. Ranjit Daniels.1999.** Distribution and status of reptiles in Kanyakumari District of Tamil Nadu.*Cobra.37*:5-9.
41. **Lakshmi Vijayakumar. 1999.** Individual identification of Indian and Reticulated python based on blotch structure and arrangement. *Cobra.37*:10-16.
42. **Rajarathinam, R and V.Kalaiarasan. 1999.** Status of reptiles in India.*Cobra.37*:30-32.

43. **Rajarathinam and V.Kalaiarasan, 1999.** A strange feeding habit of *Calotes versicolor*. *Cobra* .37:33
44. **Kalaiarasan, V and R.Kanakasabai.1999.** Distribution and status of reptiles in Chennai and Thiruvellore Districts, Tamil Nadu.*Cobra*.38: 1-5.
45. **Kalaiarasan, V.2000.** An account of reptiles in the Guindy National Park. *Cobra*.39:3-12.
46. **Aengals. R. 2000.** Outreach programme of Chennai Snake Park Trust. *Cobra* .39:13-15.
47. **Aengals, R., Kalaiarasan, V., Rajarathinam, R. and R.J.Ranjit Daniels, 2000.** Response of Children in Chennai to reptiles. *Cobra* .40:2-4.
48. **Kalaiarasan, V.2000.** First record of the bronze skink (*Mabuya macularia*) in the Guindy National Park. *Cobra*.40:17.
49. **Aengals, R. 2000.** A strange food habit of the Garden lizard (*Calotes versicolor*). *Cobra* 40:18.
50. **Kalaiarasan, V. 2000.** Collection, preservation, identification and naming of trees. *Eco News* 6(2) pp. 15-17.
51. **Rajarathinam, R., A.V.Gopalakrishnan and V.Kalaiarasan, 2000.** Chennai Snake Park: Environmental Orientation Programme for Teachers and students on the role of reptiles. *Zoos print* XV (4). Pp. 17-18.
52. **Krishnamurthy. V. and N.S. Manoharan. 2001.** A case of esophageal obstruction in rock python (*Python molurus*). *Cobra* .43 :9-13.
53. **Aengals, R and R.Rajarathinam.2001.** Reptilian survey and awareness programme at Lafarge India Lt.,near Bilaspur.*Cobra*.45:1-4.
54. **Rajarathinam, R. and V.Kalaiarasan 2000.** Methods for vegetation analysis. *Eco News* 6 (1). Pp. 2-13.
55. **Lavanya, V.2002.** Zoonotic infections from reptiles – a public health hazard. M.Sc. dissertation submitted to Periyar University. Salem.
56. **Rajaram, A., N.Priya and V.Kalaiarasan 2002.** A note on the structure of snake eggshell. *Cobra* .48 :10-11.
57. **Jayakumar, A., Ranjit, T., Thangaraj, M.G., Raman, M. and V.Kalaiarasan 2002.** Occurrence of capillariasis in Indian rock python (*Python molurus*).*Cobra*.50:27-28.

58. **Kalaiarasan, V and K.Thiyagesan, 2003.** A note on the Indian Marsh Crocodile *Crocodylus palustris* lesson at Vakkaramari water works, Chidambaram, Cuddalore District, Tamil Nadu. *Cobra* .52: 19-20.
59. **Kalaiarasan,V.2003.**Reptiles of Mudumalai Wildlife Sanctuary,*Cobra* .54:..20-22.
60. **Aengals, R. and V.Kalaiarasan 2004.** Environmental Education Programme conducted by the Chennai Snake Park. *Cobra* .56 :1-4.
61. **Aengals, R. 2004.** Notes on the breeding habit of common bronzeback tree snake (*Dentrelaphis tristis*) (Daudin). *Cobra* .56 :10-11.
62. **Kalaiarasan,V and R.Rajarathinam 2005.** A Gharial (*Gavialis gangeticus*) (Gmlein) which lost its lower mandible in intra-specific fighting *Cobra*.60:26-29.
63. **Kannan, P. 2005.** A study on reptiles in Mudumalai Wildlife Sanctuary, Nilgiri Biosphere Reserve, Tamil Nadu. *Cobra*.61 : 6-11.
64. **Rajarathinam, R. and V.Kalaiarasan 2005.** A case history of ailments in Aldabra tortoise (*Geochelone gigantean* SCHWEIGGER) in Chennai Snake Park. *Cobra*. 61 : 12
65. **Kalaiarasan,V and R.Rajarathinam 2005.** Dietary habits of Indian garden lizard *Coletes versicolor* (DAUDIN). *Cobra*.61: 16-20.
66. **Kannan, P and V.Kalaiarasan 2005.** A note on the breeding biology of agamid lizards. *Cobra*.61 : 21-24.
67. **Kannan, P. 2005.** The bay islands forest lizards *Coryphogylax subcristatus* BLYTH,1860. *Cobra*. 61 : 25&26.
68. **Rajarathinam, R. 2005.** A note on incubation of striped keelback (*Amphiesma stolatum* LINNAEUS). *Cobra*. 61: 28
69. **Kannan, P.,Rajarathinam, R. and V.Kalaiarasan 2005.** Husbandry of some pit vipers at Chennai Snake Park *Cobra*, 63: 11-12.
70. **Kannan, P 2005.** Occurrence of the striped coral snake (*Calliophis nigrescens* Gunther) in Mudumalai Wildlife Sanctuary, Southern India *Cobra*, 63: 1-3.
71. **Kannan, P 2005.** Record of ornate flying snake *Chrysoplelea ornata* (shaw) in Mudumalai Wildlife Sanctuary, Southern India *Cobra*, 63: 13.
72. **Dravidamani, S. Kalaiarasan, V. Kannan, P, Deepika, R. Gitanjali, J, Jeniffer Ruth Moss and Susanna Rajan 2006.** Studies on the Size Composition and Morphometry of Common Krait (*Bungarus caeruleus*) (Schneider, 1801) at the Irula nake

- Catchers Industrial Co-operative Society, Vadanemmeli, Kancheepuram District. *Cobra*, 64: 1-6.
73. **Kannan, P 2007.** Mortality of reptiles due to vehicular Traffic in Mudumalai Wildlife sanctuary. *Cobra*, 1 (3):1-3.
 74. **Kannan, P. and M. Rajagopalan 2008.** Exploitation of sea turtles along the south-eastern and south-western coasts of India. *Hamadryad*.33:28-34.
 75. **Kannan, P. and M. Rajagopalan 2008.** Distribution of sea snakes in the Indian coastal Waters. *J. Sci. Trans. Environ. Technov*.1 (4):218-223.
 76. **Kannan, P. 2008.** Studies on the Green turtle (*Chelonia mydas*) in the Gulf of Mannar Biosphere Reserve, Tamil Nadu, India. *Indian Ocean Turtle Newsletter*. 7:12-15.
 77. **Kannan.P. 2008.** Sea turtles status and conservation in India. *Eco News*.
 78. **Kannan, P. and M. Rajagopalan 2008.** Food and feeding habits of the Green Turtle *Chelonia mydas* in relation to marine plants in the Gulf of Mannar Biosphere Reserve, India. *J. Bombay Nat Hist. Soc.*104 (3):457-462.
 79. **Kannan, P. and M. Rajagopalan 2008.** Size composition and morphometry of incidentally captured sea turtles at Vizhinjam, South West Coast of India. *J. Bombay Nat Hist. Soc.* 104 (3): 288-297.
 80. **Ganesh,S.R. Asokan, S and Kannan, P 2008.** A preliminary survey of amphibians and reptiles in Cardamom hills, Western Ghats, Tamil Nadu. *Cobra*, Vol II (2): 1-9.
 81. **Kannan, P. 2008.** Reptiles recorded from Tamil Nadu parts of the Western Ghats with reference to their microhabitat usage. *Cobra*, Vol II (3): 1-13.
 82. **Ganesh,S.R. Asokan, S and Kannan, P 2008.** Record length of large scaled pit viper (*trimeresurus macrolepis*) beddome 1862, with notes on its ecological and conservational significance. *Cobra*, Vol II (3): 17-22.
 83. **Kannan, P and S. Bhupathy 2009.** Spatial Distribution Pattern of Agamid Lizards (Family: *Agamidae*) in the Western Ghats of Tamil Nadu, India. *J.Sci.Trans.Envirov.Technov*.3(1):41-47.
 84. **Ganesh, S. R., S. Asokan & P. Kannan. 2009.** Record of *Oligodon travancoricus* Beddome, 1877 (Serpentes: Colubridae) from Grizzled Squirrel Sanctuary, Western Ghats, Tamil Nadu, India. *The Herpetological Bulletin* 109: 25-28.
 85. **Gowri Shankar, P. & S.R. Ganesh. 2009.** Sighting record and range extension of *Calliophis bibroni* Jan, 1858 (Reptilia: Squamata: Serpentes: Elapidae). *The Herpetological Bulletin* 108: 10-13.

86. **Ganesh, S.R. & P. Gowri Shankar. 2009.** Range extension of *Kaestlea beddomeii* (Boulenger, 1887) (in part) (Reptilia: Sauria: Scincidae). *The Herpetological Bulletin* 107: 12-15.
87. **Ganesh, S.R., S. Asokan & P. Kannan. 2010.** Patterns of resource use, overlap and partitioning among three sympatric species of south Indian pitvipers. *The Herpetological Bulletin* 113: 14-19.
88. **Ganesh, S.R. & S.R. Chandramouli. 2010.** Rediscovery of *Hemidactylus scabriceps* (Annandale, 1906) (Reptilia: Sauria: Gekkonidae) from Eastern Tamil Nadu, India. *Russian Journal of Herpetology* 17(1): 70-74.
89. **Chandramouli, S.R. & S.R. Ganesh. 2010.** Herpetofauna of southern Western Ghats, India – reinvestigated after decades. *Taprobanica* 2(2):8-21.
90. **Ganesh, S. R. & J.R. Asokan. 2010.** Catalogue of Indian herpetological specimens in the collection of the Government Museum Chennai, India. *Hamadryad* 35(1):46-63.
91. **Ganesh, S. R. 2010.** Catalogue of herpetological specimens in the Chennai Snake Park. *Cobra* 4(1):1-22.
92. **Ganesh, S. R. 2010.** Richard Henry Beddome and south India's herpetofauna – A tribute on his centennial death anniversary. *Cobra*. 4(2):1-11.
93. **Rajarithnam, R. and S. Sivakumar. 2010.** Longevity of yellow monitor lizard *Varanus flavescens* (Hardwicke and Gray, 1827) in captivity. *Cobra*. 4(2):20-22.
94. **Sivakumar, S. and R. Manakadan. 2010.** Breeding season and oviposition site of common house gecko *Hemidactylus frenatus* in forests of Sriharikota, Andhra Pradesh, India. *Cobra*. 4(2):12-15.
95. **Jayathangaraj, M.G., K. Senthilkumar, M.Palanivelrajan and R.Rajarithnam. 2011.** Incidence of metabolic bone disease in siamese crocodile (*Crocodylus siamensis*) - *Cobra*. 5(1):27-29.
96. **S.R. Ganesh & S.R. Chandramouli. 2011.** On the nomenclature and taxonomy of the south Indian colubrid snake *Ahaetulla perroteti* (Dumeril, Bibron and Dumeril, 1854). *The Herpetological Bulletin* 117: 19 - 24.
97. **S.R. Ganesh & R. Aengals. 2011.** A reappraisal of *Salea horsfieldii* Gray, 1845 (Reptilia: Agamidae) in the Palni Hills of the Western Ghats, Southern India. *Sauria* 33(3): 53-56.
98. **S.R. Ganesh, R. Sreekar, S.P. Pal, G. Ramachandra, C. Srinivasulu & B. Srinivasulu. 2011.** Discovery and first description of male *Cnemaspis heteropholis*

- Bauer, 2002 (Reptilia: Gekkonidae) from Agumbe, Central Western Ghats, India. *Journal of Threatened Taxa* 3(8): 2023-2027.
99. **S.R. Chandramouli, S.R. Ganesh & N. Baskaran. 2011.** On recent sightings of a little known south Indian toad *Duttaphrynus hololius* (Günther, 1876) with notes on its morphological characterization and ecology. *Herpetology Notes* 4: 271-274.
 100. **S.R. Ganesh. 2011.** On a rare South Indian burrowing snake *Platyplectrurus trilineatus* (Beddome, 1867). *Taprobanica* 3(1): 11-14, pl.1.
 101. **S.R. Ganesh & S.R. Chandramouli. 2011.** Report of some noteworthy specimens and species of herpetofauna from South-East India. *Taprobanica* 3(1): 5-10.
 102. **S.R. Ganesh, P. Gowrishankar & R. Sreekar. 2012.** First record of Wayanad shieldtail *Melanophidium wynaudente* (Beddome, 1863) from the Central Western Ghats, India. *Hamadryad*, 36(1):53-56.
 103. **S.R. Ganesh, S.R. Chandramouli & P. Gowrishankar. 2012.** Record lengths of two endemic caenophidian snakes from the Western Ghats Mountains, India. *Hamadryad*, 36(1):44-46.
 104. **S.R. Chandramouli & S.R. Ganesh. 2012.** New Records of Bronzeback Snakes (Serpentes: Colubridae: *Dendrelaphis*) from the Central Western Ghats of India and a revised Key to south Indian Forms. *Sauria*, 35(2): 57-60.
 105. **S. R. Chandramouli, Baiju , J. J. Sebastien and S. R. Ganesh. 2012.** Expanded description of *Enhydryis dussumierii* (Dumeril, Bibron & Dumeril, 1854) (Reptilia: Colubridae: Homalopsinae). *Taprobanica* 4(1): 42-47.
 106. **Ganesh, S.R. 2012.** Fr. Charles Leigh, the 'snake father'. *Cobra*. 6(1):27-33.
 107. **Ganesh, S.R. 2012.** Arboreal behaviour in the Indian painted frog (*Kaloula taprobanica*). *Herpetotropicos*. 8(1-2)67-70.
 108. **Chandramouli, S.R., S.R. Ganesh, S. Saravanan & N. Baskaran. 2012.** Record of sea-shore skink (*Eutropis bibroni*) from Eastern Ghats, India. *Salamandra*. 48(4): 241-242.
 109. **Bohm, M., S.R. Ganesh, et al. 2013.** Conservation status of the world's reptiles. *Biological Conservation*, 157: 372-385.
 110. **Ganesh, S.R. & S.R. Chandramouli. 2013.** Endangered and enigmatic reptiles of the Western Ghats. In: **Singaravelan, S.** Eds. *Rare animals of India*. Bentham Science Publishers, U.S.A.
 111. **Ganesh, S.R. & S.R. Chandramouli. 2013.** Identification of two similar Indian agamid lizards *Calotes nemoricola* Jerdon, 1853 and *C. grandisquamis* Gunther, 1875. *Russian Journal of Herpetology*, 20(1): 33-35.

112. **Aengals, R. & Ganesh, S.R. 2013.** *Rhinophis goweri* – a new species of shieldtail snake from the Southern Eastern Ghats, India. *Russian Journal of herpetology*, 20 (1): 61-65.
113. **Vogel, G. & S.R. Ganesh. 2013.** A new species of cat snake (Reptilia: Serpentes: Colubridae: *Boiga*) from dry forests of eastern peninsular India. *Zootaxa* 3637(2): 158-168.
114. **Kannan, P, R.Rajarithinam and V.Kalaiarasan. 2013.** A study on pit vipers of the western ghats, Tamil Nadu, India *Cobra*. 7(1):1-10.

Annexure – 16

LIST OF VETERINARY INSTRUMENTS AND EQUIPMENTS AVAILABLE

1. Stereoscopic microscope	1
2. Binocular research microscope	1
3. Maximum minimum thermometer	5
4. Snake sexing probe	1
5. Stethoscope	1
6. Refrigerator 165litres	1
7. Centrifuge machine and tubes	1
8. Clinical examination table	1
9. Hygrometer (analog)	1
10. Thermohygrometer (digital)	1
11. Infra red lamp	1
12. Blunter	1
13. Electric kettle	1
14. First aid kit	1

Annexure – 17

LIST OF PUBLICATIONS

I. Books

1. *Snakes and Other Reptiles* – B.Vijayaraghavan (Tamil & English)
2. *Snakes Studies: India* – B.Vijayaraghavan
3. *Snakes in the Bible* – B.Vijayaraghavan
4. *Name-dropping – In Latin* (An Enquiry into the Scientific Names of Indian Snakes) – B.Vijayaraghavan
5. *Snakebite: A Book for India* – B.Vijayaraghavan
6. *400 Questions Answered About Snakes* – B.Vijayaraghavan
7. *The Illustrated Book of South Indian Snakes* – B.Vijayaraghavan & S.R.Ganesh.
8. *If You See a snake...A Practical guide for the perplexed* – B.Vijayaraghavan

II. Posters

- 1) Common Snakes of Chennai
- 2) Four Common Dangerously Venomous Snakes of India.
- 3) Shieldtail snakes of India: How to identify the genera
- 4) Some sea snakes of eastern coast of India

III. Picture Cards (10 cards)

A set of ten Picture Cards – Snakes of India.

IV. Sticker

Spectacled cobra

V. *Cobra* - Journal of the Chennai Snake Park Trust – Published half-yearly.

Annexure – 18
LAYOUT MAP